RELEASE 2.3 & 2.4

LOTUS 1-2-3 FOR ACCOUNTING

A BEGINNER'S SUPPLEMENT

Verlene Leeburg and Peggy Purvis

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PREFACE

Lotus 1-2-3 for Accounting: A Beginner's Supplement is a self-paced, hands-on tutorial that covers beginning spreadsheet concepts using simple accounting principles. This book assumes no prerequisites.

Lotus 1-2-3 for Accounting can be used by an accounting, bookkeeping, or business student in the following ways:

- as a supplement to a principles of accounting text
- in a bookkeeping course using Lotus 1-2-3
- as a self-paced guide to Lotus 1-2-3 for accounting applications

Lotus 1-2-3 for Accounting will quickly get the student "up to speed" with the program's most useful features used to generate typical accounting forms.

ORGANIZATION

Lotus 1-2-3 for Accounting begins with basic start-up information, then progresses to more advanced features of Lotus 1-2-3. The following features aid learning in each lesson:

- **Objectives** provide an overview.
- **Step-by-step, hands-on activities** guide the student through specific functions and commands.
- **Actual screen displays** monitor student progress.
- **Integrated case study** simulates for the student the use of standard accounting forms, procedures, and terminology popular in business.
- **Summary of commands** makes reference quick and easy.
- **Self-test questions** reinforce key concepts. (Answers can be found in the back of the book.)
- **Application problems** require the student to apply skills and concepts learned.

Lotus 1-2-3 for Accounting also comes with a complete **SmartIcon Command Reference** as well as a **Menu Reference**, plus a thorough **Index** for quick and easy reference.

USING THIS BOOK

Lotus 1-2-3 for Accounting can be used with either Release 2.3 *or* 2.4. As students work through this book they create files used in later lessons. These files can be saved on a data disk to be easily located and retrieved for use throughout the book.

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Verlene Leeburg
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Boulder, Colorado

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Lakewood, Colorado

LESSON 1

INTRODUCING LOTUS 1-2-3 AND ACCOUNTING

OBJECTIVES

At the end of this lesson, you will be able to

- Define the term "accounting"
- Differentiate between paper and electronic spreadsheets
- Start Lotus 1-2-3
- Identify the components of a worksheet window
- Move the cell pointer
- Select a menu command with the keyboard and mouse
- Use dialog boxes
- Utilize the Help feature
- Exit Lotus

WHAT IS ACCOUNTING?

Accounting is called "the language of business." It is the record-keeping system used to document financial transactions and generate reports from data to help businesspeople analyze their financial status. Today, computers are used in accounting to automate procedures, ensure accuracy, and handle large volumes of data.

Accountants are trained to record, evaluate, and report the data to managers and owners to assist in making good business decisions.

WHAT IS A MANUALLY PREPARED ACCOUNTANT'S SPREADSHEET?

A **spreadsheet** is a form divided into columns and rows, similar to an accountant's green-bar columnar pad used to record numbers for calculation or problem solving. Spreadsheets can be customized to resemble typical accounting forms such as balance sheets, journal entries, or income statements. An example of a typical manually prepared accounting report on a green-bar form is shown in Figure 1.1.

Figure 1.1

AA Enterprises
Balance Sheet
July 2, 1994

Assets						Liabilities					
Cash	1	4	8	5	00	Dixon Inc.		2	5	0	00
Supplies	1	7	1	5	00	PC Supply Company		2	0	0	00
Prepaid Insurance		7	0	0	00	Total Liabilities		4	5	0	00
						Capital					
						Jane Adams Capital	3	4	5	0	00
Total Assets	3	9	0	0	00	Total Liab. and Capital	3	9	0	0	00

WHAT IS LOTUS?

Lotus 1-2-3 is one of the most popular **electronic spreadsheet** software packages designed to operate on a personal computer (PC). Lotus 1-2-3 is not in itself an accounting package. However, it and other spreadsheet software function as the computer's substitute for the accountant's columnar pad, pencil, calculator, and forms previously prepared by hand. Lotus 1-2-3 is widely used throughout accounting firms. An example of an electronically prepared accounting form is shown in Figure 1.2.

Figure 1.2

AA Enterprises
Balance Sheet
July 2, 1994

ASSETS		LIABILITIES	
Cash	1485.00	Dixon Inc.	250.00
Supplies	1715.00	PC Supply Company	200.00
Prepaid Insurance	700.00	Total Liabilities	450.00
		Capital	
		Jane Adams Capital	3450.00
Total Assets	3900.00	Total Liab. and Capital	3900.00

The Lotus spreadsheet software is called **1-2-3** because it was designed as an "integrated" software package containing three main modules—spreadsheet, graphics, and database. The spreadsheet module is the main focus of Lotus 1-2-3, incorporating text, numbers, and many powerful built-in formulas on a screen designed in a columnar structure. The graphics module creates graphic images based on the values displayed in the spreadsheet. The database module performs some typical database functions on the spreadsheet data, such as sort, query, and search.

Additional software generated by other software vendors (so-called "third party" developers) can be purchased to enhance the performance and appearance of Lotus. These optional programs are referred to as **add-ins**.

Certain releases of Lotus have included several popular add-in programs, such as WYSIWYG, which will be discussed in later lessons.

LOTUS AND ACCOUNTING

The main advantage of using computerized spreadsheets for accounting is that they enable you to perform built-in mathematical calculations, allowing changes and corrections to be automatically updated. Also, they permit you to construct spreadsheet models for common accounting forms, consisting of repetitive information and formulas for use each month. You can use these electronic models month after month, thus ensuring consistency, accuracy, and efficiency.

STARTING LOTUS 1-2-3

Since there are many configurations of computers, Lotus 1-2-3 may be started from either your "local" hard drive or from a network drive. If your system is attached to a network, contact your network supervisor for instructions on how to log on and start Lotus. If you are using a standalone (nonnetworked) PC, follow the instructions below:

1. Make certain that your computer is turned on and the DOS prompt (C>) is displayed

   To change to the directory containing Lotus,

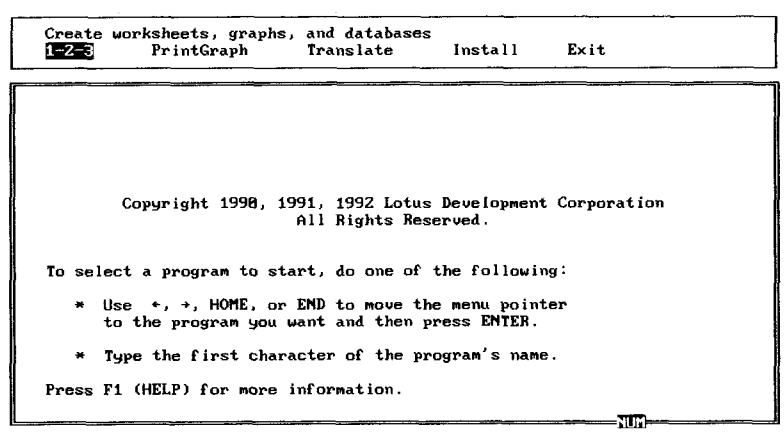
2. Type `CD\123R23` (for Release 2.3) and press Enter or type `CD\123R24` (for Release 2.4) and press Enter

   To start Lotus,

3. Type `LOTUS`
4. Press Enter

   The Lotus Access Menu screen will appear, as shown in Figure 1.3.

Figure 1.3



5. Press Enter to select 1-2-3 ("1-2-3" is highlighted)

   The Lotus license agreement screen will display while Lotus loads into memory. Then the main spreadsheet screen will appear.

LOTUS VERSIONS

This book is written for either Lotus versions 2.3 or 2.4. The concepts, menus, keystrokes, formulas, and so forth are the same for both versions.

The worksheet screen for each version is identical, except for the optional mouse **icons** displayed on the right side of the screen. These pictorial symbols offer an abbreviated method of performing functions and will be explained in depth in later lessons.

THE LOTUS WORKSHEET WINDOW

The worksheet is composed of 256 vertical **columns** designated with alphabetic letters across the top of the worksheet frame. The first column is labeled A, the second is labeled B...and the last column of the spreadsheet (256th column) is labeled IV. The worksheet is divided horizontally into 8192 **rows** indicated with numbers along the left side of the worksheet frame. The first row is labeled 1, the second is labeled 2...and the last row is labeled 8192.

Cell

The intersection of a column and a row is called a **cell**. Each cell is defined by its column and row location, always listing the column letter first, followed by the row number. For example, the cell located at the intersection of column A, row 1 is called cell A1. This combination of column-and-row coordinates is called a **cell address**.

The screen can only display a small portion of the total spreadsheet area. Figure 1.4 gives you a perspective of the vast scope of the 1-2-3 spreadsheet in relation to your PC monitor.

The main worksheet window for 1-2-3 Release 2.3 is shown in Figure 1.5, while that for Release 2.4 is illustrated in Figure 1.6.

Cell Pointer

The **cell pointer** is a highlighted bar that marks the active cell, allowing you to enter information in the current cell.

Control Panel

The top three lines of the screen are called the **control panel**. The left-hand corner of the top line displays the current cell address; when that cell is filled, its information is displayed—this is referred to as the **cell contents**.

Mode Indicator

The **mode indicator**, located at the upper-right corner of the screen, tells you that 1-2-3 is ready for a new request, informs you that it is busy processing your last command, or warns you of an error. To avoid confusion, new users should watch the mode indicator for help staying in sync with the current mode. Table 1.1 lists the modes and gives brief descriptions of each.

As you progress through this book, you will be prompted to view and note the status of the mode indicator.

If the mode indicator displays "ERROR," press the Esc key to clear the message.

Figure 1.4

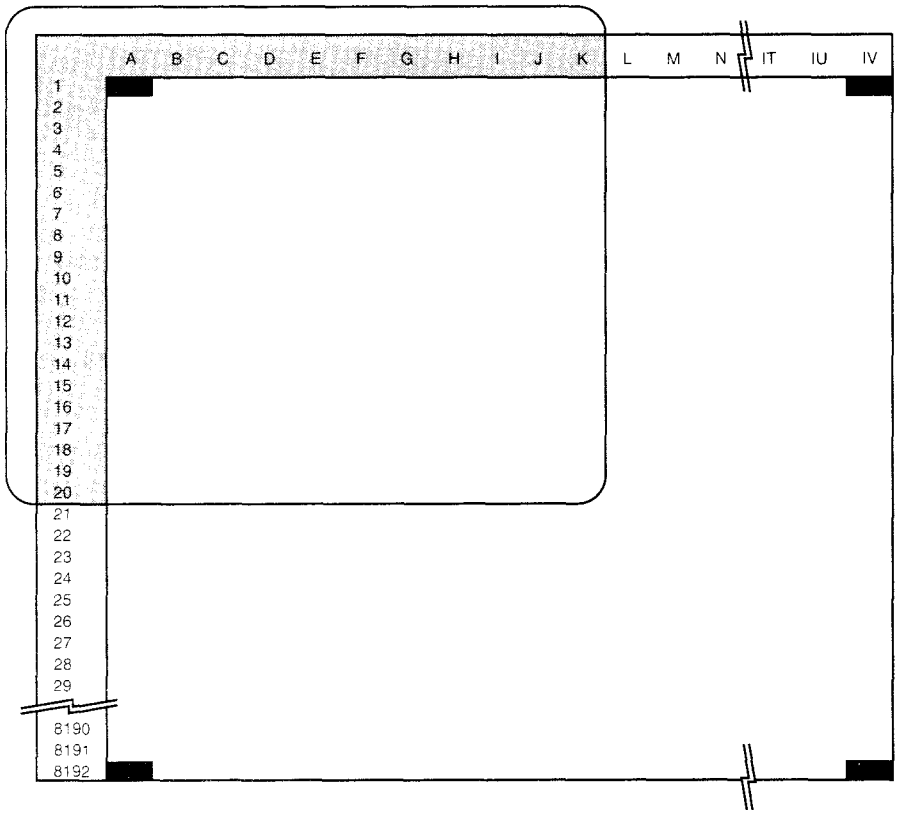
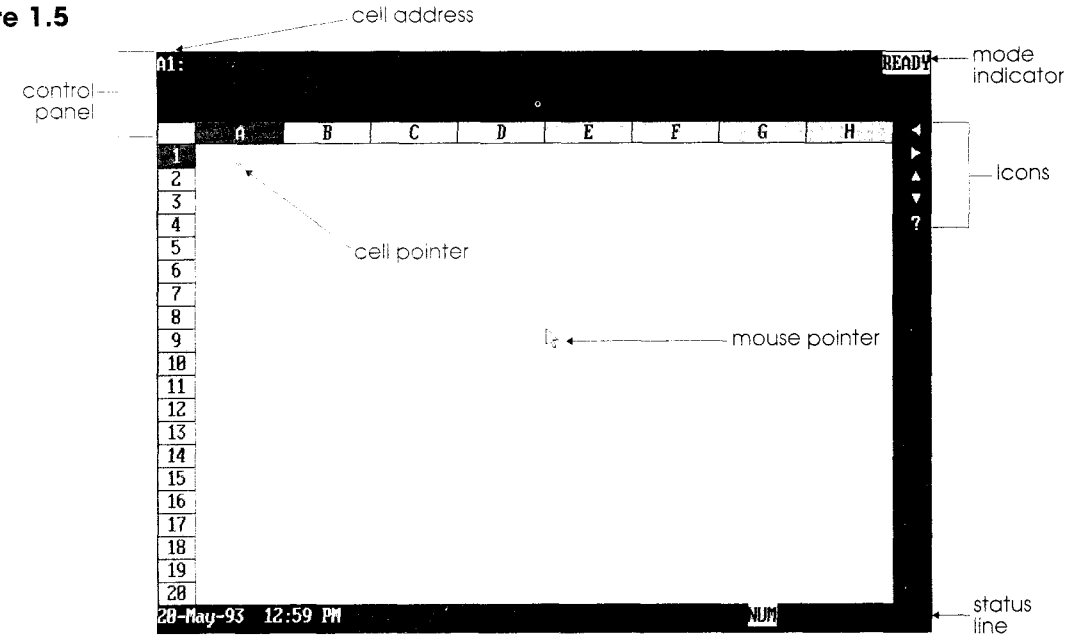


Figure 1.5



Status Line

The **status line** is the last line of the screen. The left side shows either the current date and time or the active file name. The center displays any warnings or error messages. The right side advises you of the status of the locking keys (Num Lock , Scroll Lock , and Caps Lock).

Figure 1.6

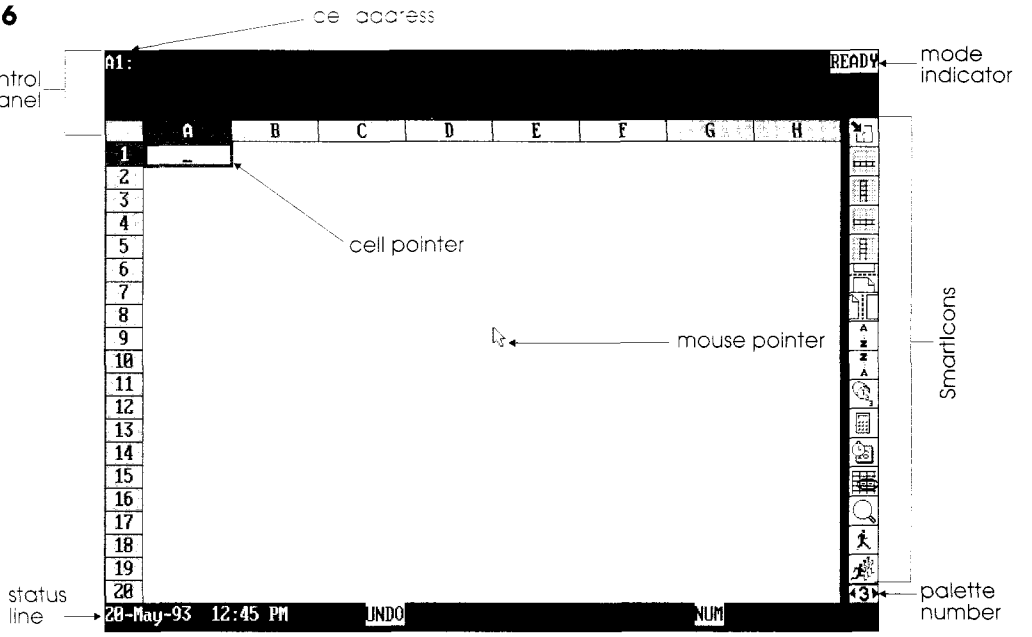


Table 1.1

MODE	DESCRIPTION
EDIT	The cell entry is being edited. Either there was an entry error or F2 (Edit) was pressed.
ERROR	1-2-3 has detected an error. A description displays at the bottom of the screen. F1 (Help) is suggested. Press Esc to clear the error message.
FILES	1-2-3 is displaying a list of file names for selection.
HELP	The Help menu (F1) is displayed.
LABEL	1-2-3 has determined that you are entering a label entry.
MENU	The 1-2-3 menu is displayed.
POINT	1-2-3 is capturing range addresses during a menu selection or is building a formula.
READY	1-2-3 is waiting for a new request or cell input.
VALUE	1-2-3 has determined that you are entering a numeric value.
WAIT	1-2-3 is processing your last command. A new task cannot be processed until the mode changes to READY.
WYSIWYG	The WYSIWYG menu is displayed.

1 2 3 In this exercise, you will switch the locking keys on and off.

Notice the "NUM" prompt in the lower right-hand corner of the status line on your screen. This indicates that your far right keypad on your keyboard is in the numeric mode with Num Lock on.

To toggle the [Num Lock] status on and off,

1. Press [Num Lock] to turn "NUM" off and then again to turn "NUM" on
2. Press [Scroll Lock] twice to turn "SCROLL" on and off
3. Press [Caps Lock] twice to turn "CAPS" on and off

Mouse Pointer

If your computer has a mouse and you are using the WYSIWYG add-in software, the mouse pointer appears as an arrow in the worksheet area. Refer to Figure 1.5 or 1.6. Later sections of this text will explain how to use the mouse to move around the worksheet and select from menus.

2.4 SmartIcons

Release 2.4 users have the ability to use **SmartIcons** as an alternative (and often faster) method of performing 1-2-3 commands. The SmartIcons are symbols shown as a column down the right side of the screen, organized into seven groups called **palettes** (refer to Figure 1.6). You may access these SmartIcons using either the mouse or the keyboard. As you progress through the book, you will be given the alternative choice of using the icons instead of the keyboard. These icons will be referenced as a possible choice within the text, and a complete list of them is found in the SmartIcon Command Reference at the back of this book. Remember that 2.4 users can also execute commands using the main menu.

[1][2][3] This exercise is intended only for 2.4 users, allowing them to view some of the available palettes using the keyboard. Release 2.3 users should skip this exercise.

To activate the icon palette,

1. Press [Alt]-[F7]

   The first icon in the palette is blinking to indicate that the palette is active. Notice that the number at the bottom of the palette indicates "1." To view the second group of icons,

2. Press [→]

   To view the next palette,

3. Press [→] again

   The number indicates "3." To return to the second palette,

4. Press [←]

   Palette 2 displays. The first icon is blinking to indicate that it is the active icon. Notice that a description of the icon's function is shown on the control panel. In this instance the screen reads, "Saves the current worksheet file to a disk." To activate this icon,

5. Press [Enter]

   To abort this menu command and return to the READY mode,

6. Press [Ctrl]-[Break]
7. Activate the icon palette again

   To move to a desired icon within a palette, use the [↑] or [↓].

8. On your own, using the arrow keys, browse through other palettes and icons; return to palette number 2 for the next exercise

   To return to the main worksheet screen in the READY mode,

9. Press Esc

1 2 3 Once again, this exercise is only for 2.4 users and users who have a mouse attached to their computers.

If you completed the exercise above, the active palette should be number 2. To change the previous palette,

1. Position the mouse pointer on the palette number
2. Click the **left mouse button** once

   Palette 1 displays.

   To view the description of the first icon,

3. Position the **mouse pointer** on the first icon
4. Click the **right mouse button**

   The control panel prompts, "Saves the current worksheet file to a disk."

   To select this icon,

5. Click the left mouse button

   To return to the READY mode without completing this menu,

6. Press Ctrl-Break

MOVING THE CELL POINTER

As mentioned earlier, the cell pointer indicates the current or active cell in which you can enter text, numbers, or formulas. The cell pointer location can be changed by using either the keyboard or the mouse.

Using the Keyboard

To move the cell pointer one cell up, down, left, or right, tap the respective directional arrow keys on the keyboard. To travel longer distances rapidly, use the **express keys** listed in Table 1.2.

1 2 3 In this exercise you will use the keyboard to practice moving the cell pointer.

A blank worksheet should be displayed and your cell pointer should be positioned in cell A1 (notice the cell address on the control panel). If your cell pointer is not in cell A1, press Home. Also notice that the mode indicator shows READY, meaning that Lotus is ready to accept information or a command.

To move the cell pointer to A2,

1. Press ↓

   To move to cell B2,

2. Press →

   To move to cell A1,

3. Press Home

Table 1.2

KEY	CELL POINTER
Tab	Moves right one screen
Shift-Tab	Moves left one screen
Ctrl-→	Moves right one screen
Ctrl-←	Moves left one screen
Home	Moves to upper-left corner of worksheet
Page Down	Moves down one screen
Page Up	Moves up one screen
End	Searches for cell where contents change from blank or nonblank cell
F5	Goes to a specific cell address

To move one screen to the right,

4. Press Tab or Ctrl-→

   Your cell pointer should be positioned in cell I1—notice the cell address shown in the control panel.

   To move one screen to the left,

5. Press Shift-Tab or Ctrl-←

   Your cell pointer should be positioned back at cell A1.

   To move one screen down,

6. Press Page Down

   Your cell pointer should be positioned in cell A21. To return to cell A1,

7. Press Home

   To search for any nonblank (filled) cells in column A,

8. Press End

   Notice the "END" prompt in the lower right-hand corner of your screen, indicating that the End key has been pressed. Lotus is now waiting for the next directional arrow to be pressed. To search down column A beginning in the current cell (A1),

9. Press ↓

   Since the End search began in a blank cell (A1), Lotus scans for the first nonblank cell in column A. Since no filled cells were found, Lotus moved downward to the last cell in column A—cell A8192.

   To scan for any nonblank cells on row 8192 and move to the last cell in the worksheet,

10. Press End, then press →

    Your cell pointer will move to the last cell in the worksheet, IV8192.

    Using the GOTO command, move to cell B500:

11. Press F5 (for GOTO)

12. Type `B500` (for the address)
13. Press Enter (to complete)

    Your cell pointer should be positioned in cell B500.
14. On your own, move to cell A1

USING THE MOUSE

You can use the mouse to activate a cell, instead of using the keyboard. It often produces the desired result much faster. The following terms will be used to move the cell pointer with the mouse:

Point	Slide the mouse across the desktop and note that the mouse pointer moves accordingly on the screen to the desired position on the worksheet.
Click	Press and release the left mouse button once.

1 2 3 In this exercise you will activate a cell.

1. Practice now by pointing to cell C5 and clicking the left mouse button

   Notice that the cell pointer is now positioned in cell C5.
2. Point to cell A1 and click the left mouse button

   Cell A1 is now the active cell.

Using the Icons

The cell pointer can also be moved by using the icons in Release 2.3 or the SmartIcons in Release 2.4. Since in Release 2.3 you can *only* use the mouse to access the icons, position the mouse pointer on the desired directional icon arrow and click the left mouse button. In Release 2.4, however, *either* the keyboard *or* the mouse may be used to activate the SmartIcons. Table 1.3 indicates the icons to move the cell pointer.

MENUS

The Lotus main menu is used to issue commands for functions such as printing a worksheet, creating a graph, exiting Lotus, and so on. It can be invoked by using either the keyboard or the mouse. When the menu displays, the first row of the main menu displays the first-level option. The second row displays either a description of the highlighted menu option or the items in the next submenu. Refer to the Appendix for complete menu trees.

Selecting a Menu Option with the Keyboard

To display the main menu using the keyboard, press the / (forward slash). A menu selection can then be made *either* by pressing the ← or → keys to highlight the option and pressing Enter *or* by simply typing the first letter of the desired command. For example, to select the **F**ile command, press the → four times to highlight the option and press Enter, or simply type **F** for **F**ile. To return to the previous menu level, press Esc. To exit from all levels of the menu and return to the main worksheet screen in the READY mode, press Esc as many times as needed; a shortcut is to press Ctrl-Break.

Table 1.3

RELEASE 2.3	RELEASE 2.4	RESULTS
	Display palette 4	
◄	←	Moves the cell pointer left one cell.
►	→	Moves the cell pointer right one cell.
▲	↑	Moves the cell pointer up one cell.
▼	↓	Moves the cell pointer down one cell.
		Moves the cell pointer to cell A1.
		Goes to a specific cell address.

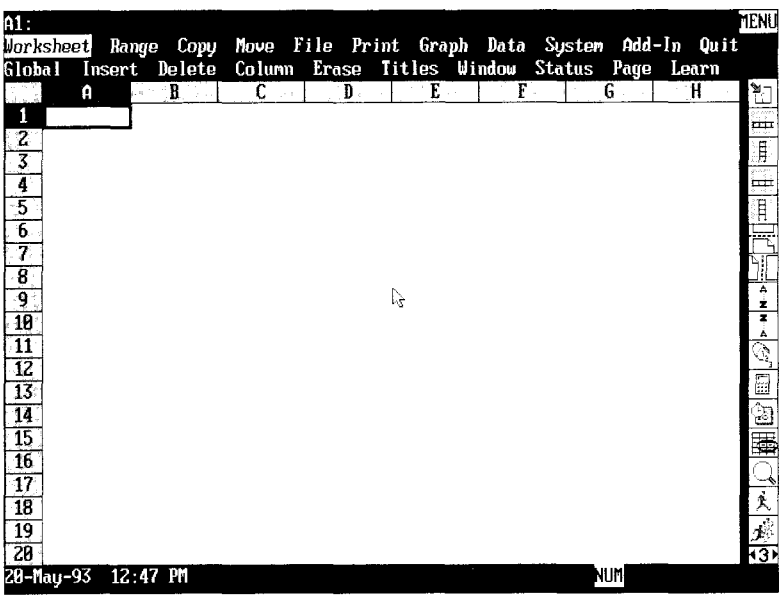
1 2 3 In this exercise, you will display the main menu by using the keyboard and choosing the File option. Notice that the mode indicator is prompting "READY."

To invoke the main menu,

1. Press /

   The main menu displays at the top of the screen, as shown in Figure 1.7.

Figure 1.7



Notice that the mode indicator prompts "MENU" to indicate that the main menu is displayed.

To select the File option,

2. Press → 4 times

   The File menu option is highlighted.

3. Press Enter

   The File submenu appears.

To return to the main menu.

4. Press Esc twice

   The main worksheet screen displays in the READY mode.

123 In this exercise you will give Lotus a command using the alternative method of typing its first letter.

To invoke the main menu,

1. Press /

To select the File option,

2. Press **F** (for **F**ile)

   The File submenu appears.

To return to the main menu,

3. Press Ctrl-Break

   The main worksheet screen displays in the READY mode.

Selecting a Menu Option with the Mouse

To display the main menu using the mouse, slide the mouse pointer to the top of the screen. Once the menu displays, position the mouse pointer on the desired command and click the left mouse button. To return to the previous menu level, click the right mouse button. To exit from all levels of the menu and return to the main worksheet screen in the READY mode, click the right mouse button as many times as needed; a shortcut is to press Ctrl-Break.

123 If you have a mouse attached to your computer and the WYSIWYG add-in software is installed, work through the exercise below to learn how to invoke a command with the mouse. You are going to select the Worksheet option.

To invoke the main menu with the mouse,

1. Slide the mouse to the top of the screen to display the main menu

To select the Worksheet menu option,

2. Position the mouse pointer on the Worksheet option and click the left mouse button

To return to the previous menu level,

3. Click the right mouse button

To return to the main worksheet screen in the READY mode,

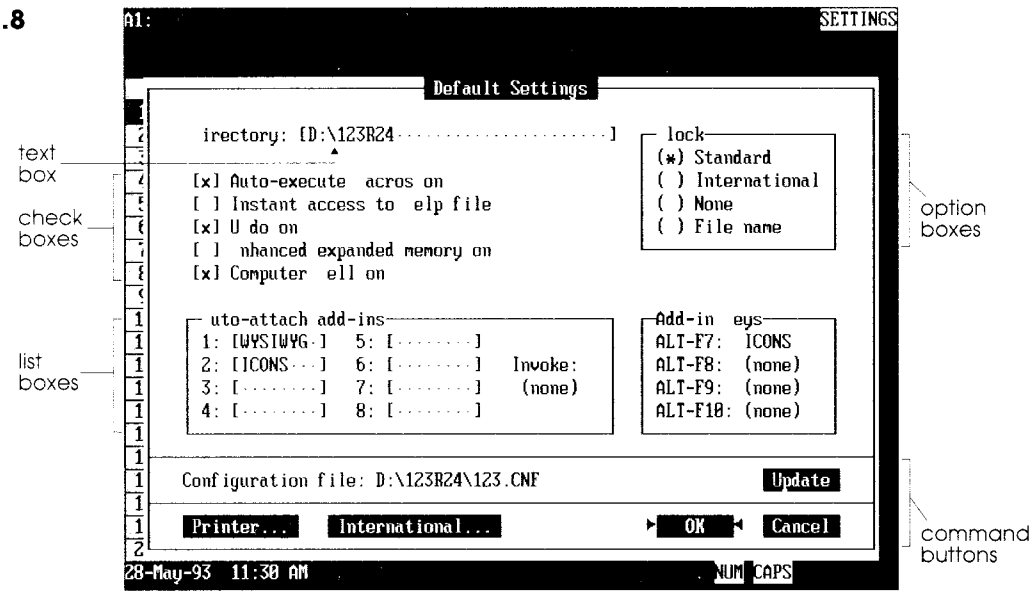
4. Move the mouse pointer down into the worksheet area, and click the right mouse button again

DIALOG BOXES

A **dialog box** displays the current settings associated with a particular menu option. These settings can be edited by using either the keyboard or the mouse. Only certain menus, such as Print, Graph, Data Sort, and so on, contain dialog boxes.

Figure 1.8 shows an example of a typical dialog box and its components, as described below.

Figure 1.8



Command buttons are indicated with solid colors and are used to instruct Lotus either to execute a command or to cancel any changes made in the dialog box and return to the previous menu level. **OK** and **Cancel** are the most common command buttons to appear in the dialog boxes.

When command buttons with ellipses (...) are selected, a subdialog box displays.

Option boxes are indicated where one asterisk marks the selected option. You can select *only* one option within the box.

Check boxes are indicated where one or more Xs mark selected options. An X preceding the option indicates that the option is turned on, and the absence of an X signifies that the option is turned off.

Text boxes are provided for the user to input information such as numbers, cell addresses, range names, or text.

List boxes are like menus in that they display a list of options or items from which you can choose.

1 2 3

In this exercise, you will use both keyboard and mouse methods to edit a typical dialog box.

Keyboard Method To display the Worksheet Global Settings dialog box, which displays the global settings for the current worksheet,

1. Press /

   To select Worksheet,

2. Press **W** (for **W**orksheet)

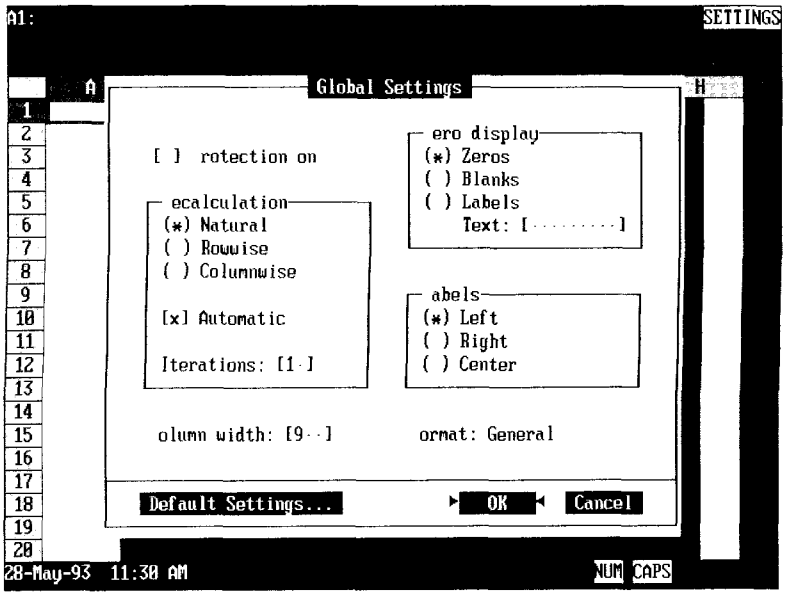
   To select the Global option,

3. Press **G** (for **G**lobal)

4. Press F2 (for Edit)

Compare your screen with the one in Figure 1.9.

Figure 1.9



The cursor is now positioned on the **OK** command button. To position the cursor in the Column width text box,

5. Press **C** (for **C**olumn width)

Notice that the Column width option is highlighted and the cursor is positioned in the text box. You may now enter the desired column width.

To change the column width from 9 characters to 12 for all columns in the worksheet,

6. Type `12`
7. Press Enter

The **OK** command button is now highlighted. To save the changes made to the dialog box,

8. Press Enter

To exit the menu and return to the READY mode,

9. Press Ctrl-Break

Mouse Method To display the Worksheet Global Settings dialog box, which displays the global settings for the current worksheet,

1. Slide the mouse pointer to the top of the screen

To select Worksheet,

2. Click on **W**orksheet

To select the Global option,

3. Click on **G**lobal

4. Click on "Press F2 (EDIT) to edit settings"

   Notice that the **OK** command button is highlighted.

5. Click on "Column width"

   Notice that the Column width option is highlighted and the cursor is positioned in the text box. You may now enter the desired column width.

   To change the column width from 12 characters back to the default setting of 9,

6. Type 9

7. Press Enter

   The **OK** command button is now highlighted. To save the changes made to the dialog box,

8. Click on **OK**

   To exit the menu and return to the READY mode,

9. Click the right mouse button 3 times

   NOTE: From this point forward, these exercise instructions will only give the keyboard steps; you may, however, choose to use the mouse.

HELP

On-screen **Help** is available when you need assistance with a command or an explanation of an error message. Simply press the Help key (F1), and the worksheet functions suspend as the Help window displays the message "1-2-3 Main Help Index." Then use the arrow keys to highlight the desired subject, and press Enter; the Help for the selected topic displays. To exit the Help screens, press Esc.

1 2 3 In this exercise you will call up a Help topic.

2.4 USERS: When you are presented with a hands-on exercise and if you choose to use the 2.4 SmartIcons, move to the section indicated with an arrow and the phrase "2.4 shortcut" and follow the bulleted items.

2.3 USERS: When you are presented with a hands-on exercise, follow all the numbered steps, ignore any 2.4 shortcuts that appear in the margin.

To start Help,

← 2.4 shortcut

- In Release 2.4, use the SmartIcons to get Help (Palette 4) ?

1. Press F1 or select the "?" icon along the right edge of the screen

   The 1-2-3 Main Help screen appears as shown in Figure 1.10.

   To receive general help on performing functions,

2. Using the arrow keys, highlight "HOW DO I...?"

3. Press Enter

   To find help on how to exit 1-2-3,

4. Using the arrow keys, highlight "Exit 1-2-3?"

Figure 1.10

5. Press Enter

   Read the instructions regarding the **Q**uit command, since you will be using it in the next section of this lesson.

6. Press Esc to exit the Help screen

EXITING LOTUS

When you are finished using Lotus, be sure that you exit properly and return to the DOS prompt before turning off your computer. To exit, select /**Q**uit.

1 2 3

Since you have completed this lesson, in this exercise you will exit Lotus and return to the DOS prompt.

To display the main menu,

1. Press /
2. Press **Q** (for **Q**uit)

   The control panel prompts, "No" or "Yes"

3. Press **Y** (for **Y**es)

SUMMARY OF COMMANDS

In the space provided, write the keystroke(s) or commands for each function.

FUNCTIONS	KEYSTROKES/MENU
Display the Lotus main menu	
Exit the main menu and return to the READY mode	
GOTO	
Help	
Exit Lotus	

SELF-TEST

1-1. List the advantages of using computerized as opposed to manual spreadsheets.

1-2. What is the main difference between Releases 2.3 and 2.4?

1-3. How many rows and columns are provided in a Lotus worksheet, and how are they referenced?

1-4. What is the purpose of the cell pointer?

1-5. What is the purpose of the mode indicator, and where is it located?

1-6. Name three of the different prompts the status line may display.

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LESSON

2

LEARNING LOTUS FUNDAMENTALS FOR BASIC ACCOUNTING SHEETS

OBJECTIVES

At the end of this lesson, you will be able to

- Enable and use the Undo feature
- Design a spreadsheet form
- Enter labels
- Delete cell entries
- Define a range
- Erase a range
- Edit entries in cells
- Save a worksheet
- Change the width of a column
- Use other label prefixes
- Enter numbers as labels
- Enter numbers as values
- Enter formulas
- Clear the worksheet
- Retrieve existing worksheets
- Save a modified worksheet as a new file

THE CASE STUDY

In Lesson 1 you were introduced to the Lotus worksheet and menus. In this and the remaining lessons, you will record financial transactions and generate accounting reports using electronic spreadsheets as you learn the fundamentals of Lotus 1-2-3.

Suppose you have just been hired as the accountant for VP Computers, Inc., which is a merchandising business that markets computer hardware and software. VP Computers, Inc. is a partnership owned by Val Page and Vaughan Peterson.

Since this is a new company, you are to design and implement their financial accounting system. Your first task is to create a financial statement in the form of a balance sheet, which will present the current financial status of this business, showing assets, liabilities, and capital.

STARTING POINT

Before beginning this lesson start Lotus 1-2-3 and make sure that you have a blank worksheet on the screen.

ENABLING UNDO

Before you begin to create the first sample worksheet, use the following steps to turn on the **Undo** function, which keeps a "backup" copy of your worksheet in memory in case of an error or unwanted change. Undo allows you to reverse one previous operation (either a typing function or a menu function).

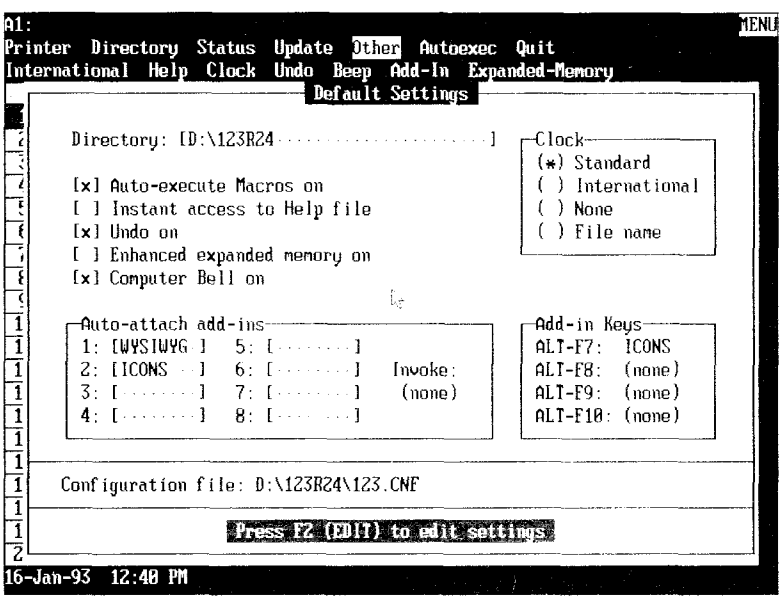
This function may or may not be activated, depending upon the version of Lotus you are running and the memory capacity of your computer.

To enable the Undo feature,

1. Press / (for the main menu)
2. Select **W** (for **W**orksheet)
3. Select **G** (for **G**lobal)
4. Select **D** (for **D**efault)
5. Select **O** (for **O**ther)
6. Select **U** (for **U**ndo)
7. Select **E** (for **E**nable)

Note in Figure 2.1 that the Undo option has been selected.

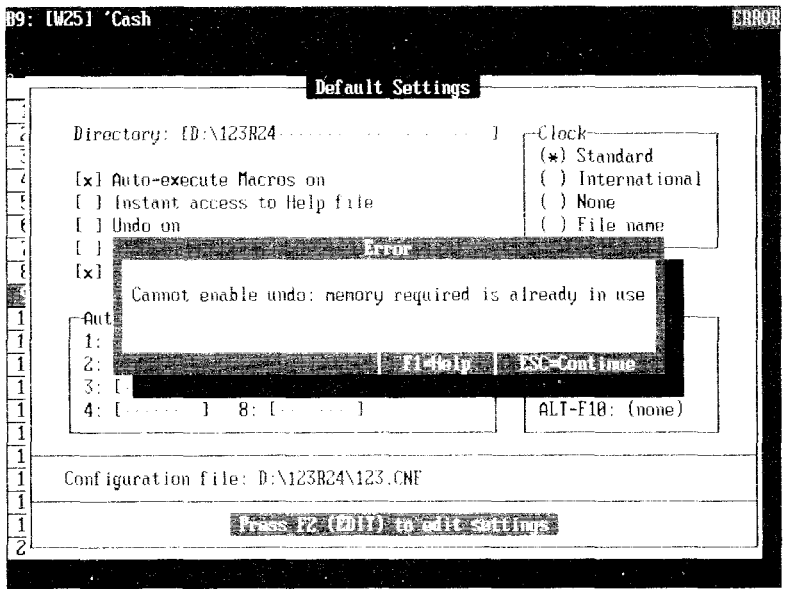
Figure 2.1



To make this setting permanent,

8. Select **U** (for **U**pdate)

Figure 2.2



9. Select **Q** (for **Q**uit)

   If these steps cause an error message, such as that shown in Figure 2.2, do the following:

10. Press Esc to clear the error
11. Select **Q** (for **Q**uit)
12. Select / (for the main menu)
13. Select **Q** (for **Q**uit)
14. Select **Y** (for **Y**es)
15. Then restart Lotus

    Now that you have cleared memory, you may begin enabling Undo.

DESIGNING THE SPREADSHEET FORM

Many Lotus books will encourage you to create a "rough sketch" of the worksheet on paper instead of immediately entering the information into Lotus. For very large and complicated worksheets, planning on paper is indeed advisable.

However, one of the major advantages of using electronic spreadsheets is that they give you the ability to easily rearrange information, add or delete rows or columns, and change column widths. The examples used in these lessons are uncomplicated and straightforward enough to bypass the rough draft on paper; therefore, data will be keyed directly into the Lotus spreadsheet.

A balance sheet has three major sections, Assets, Liabilities, and Capital. A balance sheet can be prepared in two different formats: an "account" form where assets are listed on the left side with liabilities and capital listed on the right side, or a "report" form where all items are listed vertically.

In the next exercise you will build a balance sheet using the account form method, requiring use of five columns on the spreadsheet: asset account names; value of assets; dividing vertical line; liabilities and capital account names; and values of liabilities and capital.

ENTERING LABELS

A **label** is noncalculating information entered into the worksheet. An alphabetic entry is a typical example of a label. For example, the word "ASSETS" begins with an alphabetic letter and hence will never be used for calculation by a formula elsewhere in the spreadsheet.

To enter a label into a cell, position the cell pointer where the label is to appear, type the text for the label; as you type, the characters appear in the control panel while the mode indicator displays "LABEL." At this time you may make corrections by pressing the Backspace key. To finalize, press Enter and the text is placed in the current cell.

A symbol called a **label prefix** precedes the text to control the alignment of the text in the cell. The four label prefixes and their cell positions are shown in Table 2.1.

Table 2.1

LABEL PREFIX	CELL POSITION
' (apostrophe)	Left
" (double quotation)	Right
^ (caret)	Centered
\ (backslash)	Repeating to fill the cell

The **default** (assumed) label prefix is the apostrophe (') for left alignment.

1 2 3

In this exercise, you will begin the balance sheet for VP Computers, Inc. by entering labels for the ASSETS section in cell A5 of a blank worksheet. The report headings will be added later.

Move the cell pointer to cell A5:

1. Press F5 (GOTO), type `A5`, and press Enter
2. Type `ASSETS`

   Notice that the text appears on the control panel and the mode indicator displays "LABEL."

3. Press Enter

   The label is placed on the left edge of the current cell and the cell pointer remains in that cell. Also, notice that the first line of the control panel displays not only the current cell address, but also the label text—including the label prefix (').

Move to cell A7:

4. Press ↓ twice
5. Type `Cash` (do not press ENTER)

   To enter Cash and move to the next cell with one keystroke,

6. Press ↓ once

   You are now instructed to misspell an entry in cell A8, so that corrections can be demonstrated.

7. Type `Supplied` (do not press ENTER)

   To correct the typing error,

8. Press Backspace once
9. Type `s` (do not press ENTER)

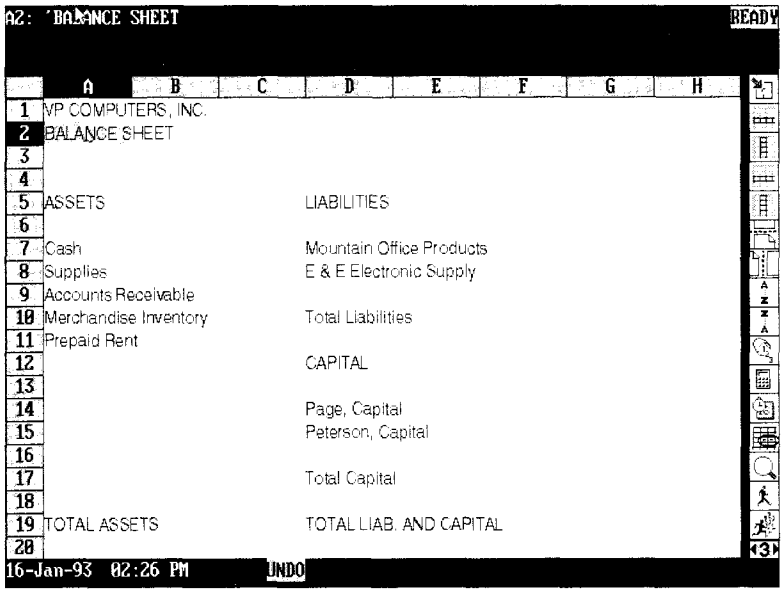
   The text now appears as "Supplies."

10. Press ↓ to move to cell A9
11. Type `Accounts Receivable`
12. Press Enter

    NOTE: Observe that the label text contained in cell A9 is partially displayed in the adjoining cells since the item is larger than the current column width. In the next section, the width of column A will be increased.

13. On your own, continue entering labels in columns A and D to complete the worksheet through cell D19, including headings in cells A1 and A2 as shown in Figure 2.3.

Figure 2.3



DELETING ENTRIES IN A CELL

To completely erase the contents of a cell, position the cell pointer on the cell to be erased and press Delete.

1 2 3

In this exercise you will practice deleting a label entry in a cell.

1. GOTO (F5) cell A5

← 2.4 shortcut

- Select the Delete icon (Palette 4)

2. Press Delete

USING UNDO

To restore the information in cell A5 from the previous deletion, use the Undo feature.

1 2 3

In this exercise, you will use Undo to retrieve deleted cell contents. The cell pointer is still placed in cell A5. You have not performed any other functions since the last deletion.

← 2.4 shortcut

- Select Undo (Palette 4)

1. Press Alt-F4 (for Undo)

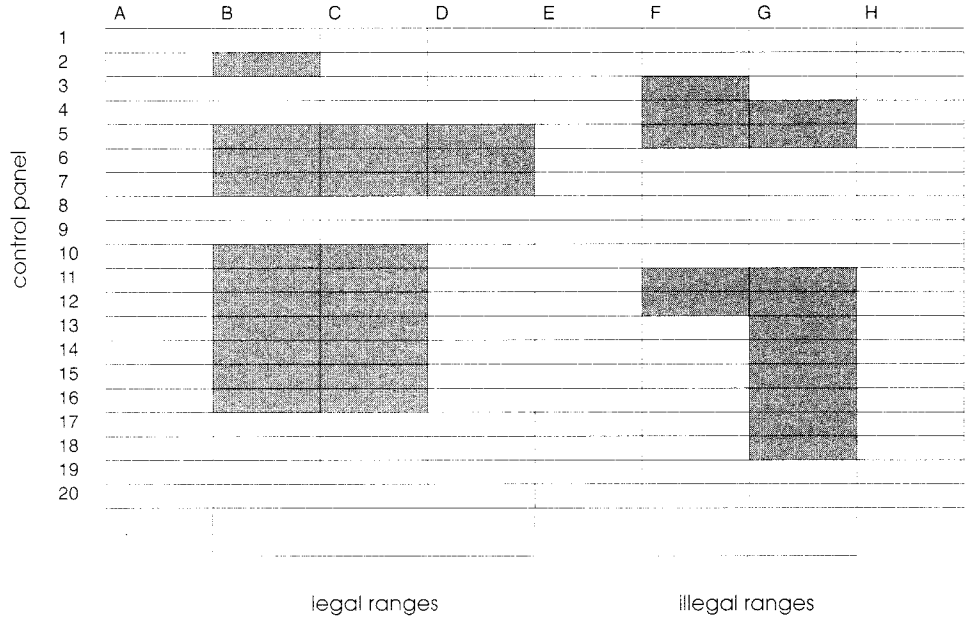
   The deleted entry is restored.

DEFINING A RANGE

A range is one or more cells that form a contiguous (touching all points) rectangle used for grouping cells together for printing, copying, deleting, and so forth.

Figure 2.4 illustrates legal and illegal ranges.

Figure 2.4



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1 2 3

In this exercise you will practice deleting a label entry in a cell.

1. GOTO (F5) cell A5

← 2.4 shortcut

- Select the Delete icon (Palette 4)

2. Press Delete

Using Undo

To restore the information in cell A5 from the previous deletion, use the Undo feature.

1 2 3

In this exercise, you will use Undo to retrieve deleted cell contents. The cell pointer is still placed in cell A5. You have not performed any other functions since the last deletion.

← 2.4 shortcut

- Select Undo (Palette 4)

1. Press Alt-F4 (for Undo)

   The deleted entry is restored.

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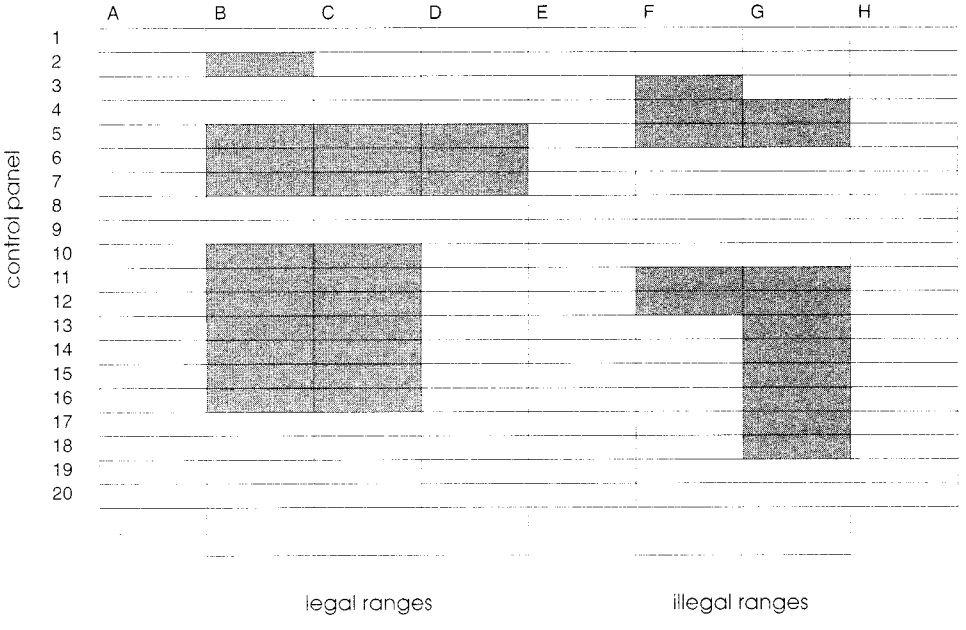


Range menus are designed to be automatically **anchored** or **unanchored** for your convenience, depending on the function. An anchored range address is one that is already "locked" at the current cell pointer location so that you can shade a block of cells in a rectangular shape for any of the aforementioned functions. An unanchored address is one that is not locked at the current cell pointer location and can be relocated anywhere in the worksheet before additional cells are shaded.

Table 2.2 indicates the appearance of anchored and unanchored addresses and the keystrokes required to accomplish these anchors.

Table 2.2

ADDRESS/KEYSTROKE	DESCRIPTION
A3..A3	Anchored
A3	Unanchored
Esc	Unanchor key
. (period)	Anchor key

ERASING A RANGE

To erase a range of cells (one or more adjacent cells forming a rectangular block), position the cell pointer in any corner of the block, select /**R**ange **E**rase from the main menu, shade the desired cells using the arrow keys, and press Enter to finalize the procedure.

1 2 3

In this exercise you will erase the contents of cells A7 through A11 and then Undo to restore the contents of these cells.

1. Position the cell pointer in cell A7
2. Press / (for the main menu)
3. Select **R** (for **R**ange)
4. Select **E** (for **E**rase)

   The control panel prompts, "Enter range to erase: A7..A7." Lotus is assuming that cell A7 is the starting cell to be erased, and will allow you either to accept one cell as the range to erase, or to shade additional cells from there in any direction to create the rectangular block. Whenever a double-referenced address (such as A7..A7) displays, the cell pointer is anchored, meaning that you are "locked" at cell A7 and can shade or point to additional cells using the arrow keys. When you are prompted for a range address, the mode indicator displays "POINT," waiting for you to define the range.

   To expand the range through cell A11,

5. Press ↓ 4 times

   Even though some of the text is displayed in columns B or C, it was all entered into column A and will be erased correctly.

   The control panel prompts, "Enter range to erase: A7..A11." To accept this range,

6. Press Enter

To perform an Undo,

7. Press [Alt]-[F4] (for Undo)

   The deleted information is automatically restored.

EDITING ENTRIES IN A CELL

Once an entry is entered into a cell, it can be corrected or modified by first moving the cell pointer to that cell and pressing [F2] for Edit. Once you are in the EDIT mode, the mode indicator displays "EDIT" and a second line of the control panel displays the original entry of the cell, allowing you to make corrections. Within the EDIT mode use the [←], [→], [Home] (move to the beginning of the line), or [End] (move to the end of the line) keys to position the cursor at the error. Then, to make the correction, use [Backspace] to erase the character to the left of the cursor, or use [Delete] (delete key) to erase the current character. Press [Enter] to finalize. The edit line defaults to the "insert" mode (new characters will be inserted to the left of the cursor). Press [Ins] (insert key) to change the edit line to the "overtype" mode (new characters will replace existing characters).

[1][2][3] In this exercise you are instructed to edit the existing label in cell D19 to read "TOTAL LIAB. + CAPITAL."

1. Move to cell D19
2. Press [F2] (note that the mode indicator displays "EDIT")

   To move the cursor to the beginning of the word "AND,"

3. Press [←] 11 times

   To delete the word "AND,"

4. Press [Delete] 3 times
5. Press +

   To complete the correction,

6. Press [Enter]
7. On your own, use [F2] (Edit) to correct any other typing errors on your worksheet

SAVING A WORKSHEET

The active worksheet resides temporarily in the computer's memory. In the event of a power loss or power surge, your worksheet will be lost unless it has been saved to disk. Therefore, it is wise to save the currently displayed worksheet often while creating rather than waiting until you complete the worksheet. To save permanently on the computer hard disk or data disk, display the Lotus main menu and select the **F**ile, **S**ave options.

[1][2][3] In this exercise you will save your worksheet to disk. The instructions below will save the worksheet to the disk in drive A. If you are saving to a

different drive, substitute the desired drive letter where drive A is indicated. Make sure that you have a formatted disk inserted in the disk drive.

2.4 USERS: Remember that you can move to the section indicated with the phrase "2.4 shortcut" and follow the bulleted steps to use the 2.4 SmartIcons. After completing those steps, go to "2.4 resume" to complete the remaining steps in the exercise.

2.3 USERS: Remember that you simply follow all the numbered steps in a hands-on exercise.

← 2.4 shortcut

- Display any palette, 1 through 5
- Select the File Save icon 

1. Press / (for the main menu)
2. Select **F** (for **F**ile)
3. Select **S** (for **S**ave)

   Lotus automatically targets the hard disk for saving files. To clear the default location,

2.4 resume →

4. Press [Esc] twice

   To save the file to drive A: and name it,

5. Type `A:BALANCE1`

   A file name cannot exceed eight characters and may be typed in upper- or lowercase. A file name cannot contain spaces or any of the following symbols: . " / \ [ ] : < > + = ; , ^

   The file extension .WK1 is automatically placed at the end of the file name. Do not alter the file extension since Lotus may not be able to recognize any other characters as a valid Lotus spreadsheet file. Your file is named A:BALANCE1.WK1.

   To finalize the saving procedure,

6. Press [Enter]

   Notice that the mode indicator briefly displays "WAIT" while the file is being saved to disk. The mode indicator then returns to "READY" when saving is complete.

   *NOTE: In all future exercises, menu commands will be documented in a short form. For example, to save a file the command will be shown as /**F**ile **S**ave.*

CHANGING THE COLUMN WIDTH

All of the 256 columns are preset (established as a default) to a width of 9 characters. The width of one or more columns can be increased or decreased either before or after information has been entered, using the /**W**orksheet **C**olumn **S**et-Width command. It is important to remember that this command affects the width of only the current column (the one in which the cell pointer is positioned).

1 2 3 In this exercise you will increase the width of column A from 9 to 25 characters to accommodate the labels in that column.

1. Position the cell pointer on any row in column A
2. Select /**W**orksheet **C**olumn **S**et-Width

   The screen prompts, "Enter column width (1..240): 9." Lotus indicates that the current column width is set at 9 characters but that you may change the width to be as narrow as 1 character or as wide as 240 characters. The mode indicator displays "POINT."

   To enlarge the current column to a width of 25 using the "point" method,

3. Press → 16 times

   As you press the right arrow, the column enlarges on the screen and the command line prompts, "Enter column width (1..240): 25." To accept 25 as the correct width,

4. Press Enter

   To decrease the width of column C to 4 characters using the "type" method,

5. Position the cell pointer in column C
6. Select /**W**orksheet **C**olumn **S**et-Width

   Instead of using the arrow keys to set the column width, you can type the number for the width from the keyboard:

7. Type **4**
8. Press Enter

   NOTE: When an individual column width is set, the width is shown in square brackets (for example, "[W4]") on the control panel following the cell address, indicating the width of each cell in that column.

9. On your own, increase the width of column D to 25, using either the point or the type method

   To summarize the current column settings,

Column A	25	Individually set
Column B	9	Remains at the default
Column C	4	Individually set
Column D	25	Individually set
Column E	9	Remains at the default

Saving and Replacing

As you make additions or changes to the worksheet, you need to save the file. You will use the same file name (BALANCE1.WK1), and the currently displayed worksheet will save over the previously saved file on disk. This "updating" process is called **replace**.

1 2 3 In this exercise you will update the disk to reflect the changes made to your worksheet.

1. Select /**F**ile **S**ave

   The screen prompts, "Enter name of file to save: A:BALANCE1.WK1." To accept the displayed file name,

2. Press Enter

   The control panel prompts, "Cancel Replace Backup."

   Cancel — Select **C** for **C**ancel if you wish to cancel your request to save at this time and return to the READY mode.

   Replace — Select **R** for **R**eplace if you wish to save the currently displayed worksheet to disk, replacing the previous saved version.

   Backup — Select **B** for **B**ackup if you wish to keep both the previous disk version of a worksheet as well as the current displayed version. The previous version on disk will be saved with a .BAK extension (backup), and the screen version will be saved with a .WK1 extension (worksheet).

   To update the original file on disk with the revised screen version,

3. Select **R** (for **R**eplace)

   Notice that the mode indicator briefly displays "WAIT" while the file is being saved to disk. The mode indicator then returns to "READY" when saving is complete.

More on Label Prefixes

Earlier in this lesson, left-aligned label prefixes were automatically embedded with text labels. Now, other uses of label prefixes will be explored. To refresh your memory, refer back to Table 2.1 for the type and assignments of the four label-prefix characters.

Repeating Prefix

The backslash (\) is a label prefix that repeats the next characters as many times as needed to completely fill the entire width of a cell. Its most common usage is to repeat dashes or equal signs to create a line in a cell for major divisions or to mark totals in a spreadsheet.

1 2 3 In the following exercise you will insert repeating dashes or equal signs in row 4 to frame the column headings, as well as under all the section headings, totals, and grand totals.

1. Move to cell A4
2. Type \ =
3. Press →
4. Repeat steps 1–3 in cells B4 through E4 to create a double line all the way across the sheet. We will learn the use of the copy command in later lessons to duplicate entries quickly.

To enter dashes in cell B18,

5. Move to cell B18
6. Type \ -
7. Press Enter
8. On your own, enter *single* repeating dashes in cells E9, E11, E16, E18, and enter *double* repeating dashes in cells B20 and E20

Centered Labels

To center a label entry, use the ^ (caret sign) label prefix. You may add this prefix as you type the item or add to existing cell entries with EDIT.

1 2 3

In this exercise, you will center the existing heading label entries and also center the dashes.

1. Move to cell A5 (ASSETS)
2. Press F2 (for Edit)
3. Press Home

   The cursor moves to the beginning of the label on the default label prefix ('). To delete the ' (apostrophe),

4. Press Delete

   To change the alignment to center,

5. Type ^ (caret)
6. Press Enter
7. On your own, center the labels in cells D5, D10, D12, and D17

   To enter a specific number of centered dashes or equal signs in cells,

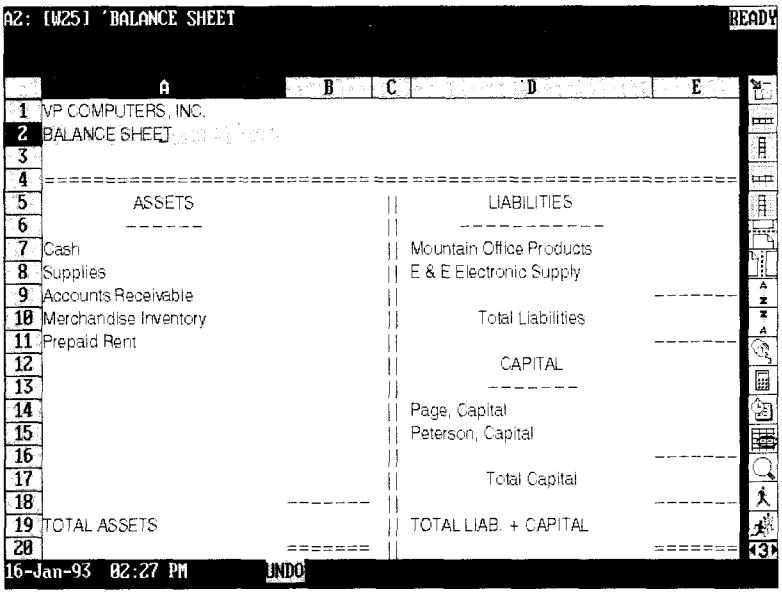
8. Move to cell A6
9. Type ^--- (caret and three dashes)
10. Press Enter
11. On your own, enter 11 centered dashes in cells D6, and 7 centered dashes in cell D13 to underline the section headings

    To enter a centered vertical dividing line, use the ^ (caret) and the | (pipe, produced by pressing ⇧Shift - \).

12. Move to cell C5
13. Type ^ | |
14. Press ↓
15. On your own, repeat centered pipes from cells C5 through C20
16. On your own, save and replace to store these changes

    Compare your screen with the one shown in Figure 2.5.

Figure 2.5



ENTERING NUMBERS AS LABELS

As explained above, label entries are "noncalculating" information. Labels can contain alphabetic or numeric characters as well as symbols. Label prefixes determine not only the alignment of an entry, but whether the entry is to be calculated or noncalculated. A label prefix can be typed along with the entry or may be added later by using the Edit feature.

Examples of "noncalculating" label numbers are telephone numbers, Social Security numbers, account numbers, and the like. To enter a number as a label, precede it with one of the three label prefixes—' (left), " (right), or ^ (center). A number without a label prefix is considered a "calculating" number.

1 2 3

In the following exercise you will enter June 1 as "6-1." This date is a noncalculating label. A label prefix is required to prevent the numbers from calculating, otherwise Lotus would interpret "6-1" as 6 minus 1.

1. Move to cell A3

   To enter the date of this report,

2. Type `6-1`
3. Press Enter

   You can see that Lotus calculated the entry—6 minus 1—displaying 5 as the result. Edit this cell to designate this item as a noncalculating number.

4. Press EDIT (F2)
5. Press Home

To add a label prefix to define this entry as a noncalculating label,

6. Type ' (apostrophe)
7. Press Enter

Mixed Entries or Symbols

When you enter a combination of alphabetic or numeric characters or symbols, Lotus needs to be instructed how the entry should be treated—calculating or noncalculating. If a symbol is used as the first character in an entry, Lotus will wait for a clarification, automatically placing you in the EDIT mode.

1 2 3 In this exercise, you will type an entry that consists of symbols and mixed (alphabetic and numeric combination) characters in cell A3 to read 01–June.

1. Move to cell A3
2. Type `01-June`
3. Press Enter

   Lotus 1-2-3 beeps and the mode indicator displays "EDIT," meaning that it requires clarification of this entry. Since you are entering a combination of numbers, mathematical symbols, and letters in the same cell, Lotus is confused as to whether it is a noncalculating or calculating entry. The cursor in the edit line is positioned where the entry changed from numbers to alphabetic characters.

   To instruct Lotus to treat the entire item as a noncalculating entry,

4. Press Home

   The cursor moves to the beginning of the entry. To specify noncalculating, add a left-aligned label prefix,

5. Type ' (apostrophe)
6. Press Enter

ENTERING NUMERIC VALUES

Numeric values are those numbers that are to be used for calculations. You may enter negative numbers with a – (minus sign), and enter values with decimals with one decimal point. When the first number is entered on the control panel, 1-2-3 recognizes a numeric value and the mode indicator displays "VALUE." The cell alignment for numeric values is right-justified although, unlike labels, this alignment cannot be altered.

You never type calculating numbers with label prefixes, commas, dollar signs, percent signs, symbols, or text. After the number has been entered into a cell, you have the option to enhance the appearance of numbers with commas, dollar signs, and so on, using the format command, which will be discussed in the next section.

1 2 3 In this exercise, you will record the current values for the accounts in the balance sheet as of June 1.

1. Move to cell B7

Enter the number value for cash:

2. Type `50000`

   Notice that the mode indicator displays "VALUE."

3. Press Enter

   Notice that the number is aligned on the right side of the cell with no dollar signs or decimal places.

4. Press ↓ to move to cell B8

   Enter the number value for supplies.

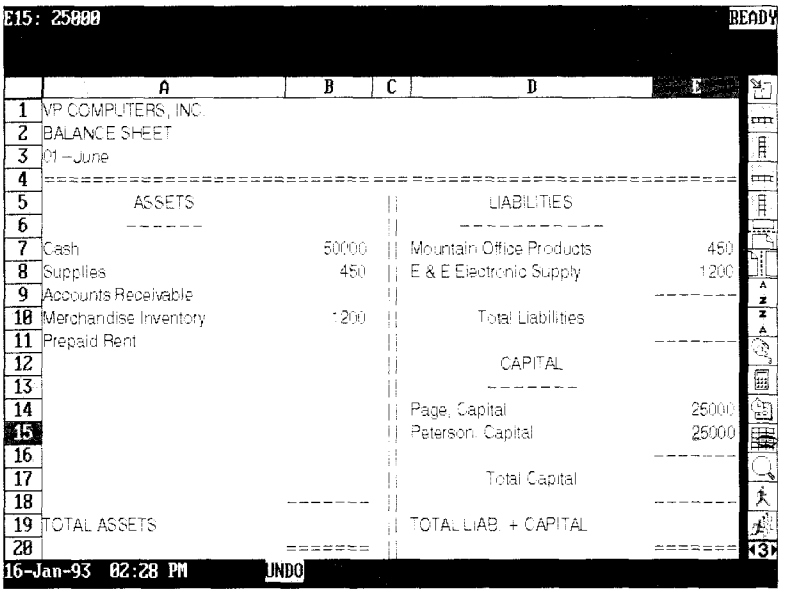
5. Type `450`

6. Press ↓

   Notice that the value 450 is entered in the cell B8 and the cell pointer moves down one cell to B9.

7. On your own, continue entering numbers in columns B and E as shown in Figure 2.6

Figure 2.6



USING 1-2-3 FORMULAS

Formulas are mathematical links between cells in a worksheet. For example, to add cells E7 and E8, then display the results in cell E10, the following formula would be the contents of cell E10:

+E7+E8

The plus sign (+) is always used as the first character in a formula, which tells 1-2-3 to interpret the data as a formula—not a label or a value. Formulas can contain cell addresses, numbers, or mathematical operators. When entering formulas, you may either type the cell addresses or point to

the appropriate cells by using the keyboard or mouse. Formulas can be entered at any time either before or after numbers are entered into supporting cells. In the example above, the formula in cell E10 can be entered before or after the numbers in supporting cells E7 and E8.

Table 2.3 lists the mathematical operators that can be used in a formula in order of precedence—that is, the order in which they will be calculated.

Table 2.3

OPERATOR	CALCULATION
+	Addition
-	Subtraction
*	Multiplication
/	Division
^	Exponentiation

The advantage of using Lotus 1-2-3 is that if the supporting number values are changed, 1-2-3 automatically recalculates all formulas linked to those cells. Formulas can be edited by either retyping the cell address or using F2 to edit.

Table 2.4 lists some sample formulas and their descriptions.

Table 2.4

FORMULA	DESCRIPTION
+A1-A2	A1 minus A2
+A1*A2	A1 times A2
+A1/A2	A1 divided by A2
+A1*6	A1 times 6
+A1+A2-A3	A1 plus A2 minus A3
+(A1+A2)/A3	A1 plus A2 then sum divided by A3
+A1^2	A1 to the power of 2

1 2 3 In this exercise, you will create a formula in cell E10 to sum the liabilities.

1. Move to cell E10

   To begin entering the formula,

2. Press +

   The plus (+) character instructs 1-2-3 that you are creating a formula. Notice that the mode indicator displays "VALUE" since the next character in the formula can either be a number or a cell address. To point to the cells to add,

3. Press ↑ 3 times (do not press Enter)

The control panel prompts, " +E7" and the mode indicator displays "POINT." Cell E7 is secured as the first address of the formula and 1-2-3 is waiting for the next mathematical operator. To add the next number,

4. Press **+**

   The cell pointer jumps back to the original "answer" cell (E10), the mode indicator displays "VALUE," anticipating the next entry. To point to the next value,

5. Press ↑ twice

   The control panel prompts, "+E7+E8"

   The formula is complete; now to finalize,

6. Press Enter

   The answer in cell E10 reads, "1650"

7. On your own, move to cell E17 and create a formula to add cells E14 +E15. The result should read, "50000"

   To total liabilities plus capital,

8. Move to cell E19

   To begin the formula,

9. Press +

10. Press ↑ 9 times to move to cell E10 (Total Liabilities)

    To add the second number,

11. Press **+**

12. Press ↑ twice to move to cell E17 (Total Capital)

    The control panel prompts, "+E10+E17"

    The formula is complete; now to finalize,

13. Press Enter

    The result should read, "51650"

14. On your own, enter a formula in cell B19 to add the Assets column. Be sure to include the addresses for the empty cells for Accounts Receivable and Prepaid Rent so that when numbers are entered in the future, they will automatically total

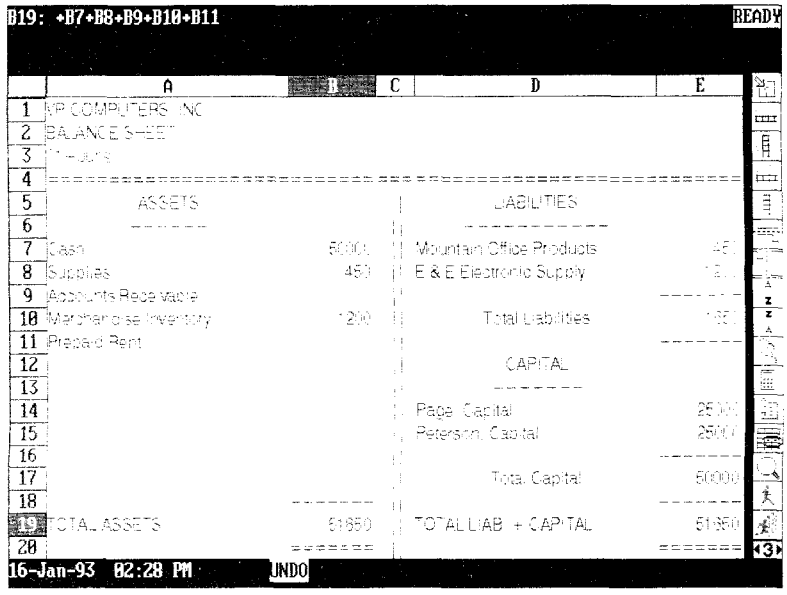
    The formula should read, "+B7+B8+B9+B10+B11"

15. Save the file

    To make sure that the accounting equation balances, check whether the Total Assets equal the Total Liabilities plus Total Capital. The result should be "51650" in cells B19 and E19.

    Compare your worksheet with the one shown in Figure 2.7.

Figure 2.7



PRACTICING WITH + FORMULAS

The preceeding example worksheet only requires addition, but the following exercise will give you practice with use of subtraction, multiplication, and division.

1 2 3

To begin this exercise, go to cell E39 for a practice area of this worksheet:

1. Press F5, type `E39`, and press Enter
2. Type `20` and press ↓
3. Type `5` and press ↓

   Enter the following subtracting formula in cell E41, using the point method.

4. Press + (to begin the formula)
5. Press ↑ twice (to cell E39)
6. Press - (for subtraction)
7. Press ↑ (to cell E40)

   The formula reads, "+E39–E40"

8. Press Enter

   The answer should be 15.

   Now you will edit this formula to change the math from subtraction to multiplication.

   While still in cell E41,

9. Press F2 (for Edit)
10. On your own, edit the formula to multiply; the formula should read, "+E39*E40"

    The answer should be 100.

11. On your own, edit the formula to divide; the formula should read, "+E39/E40"

    The answer should be 4.

12. On your own, erase cells E39 through E41 using the /**R**ange **E**rase command

13. Press Home to return to main work area, save, and replace

CLEARING THE WORKSHEET

To remove the currently displayed worksheet from memory and return to a blank worksheet to begin a new project, use the /**W**orksheet **E**rase command.

*CAUTION: Be sure to use the /**F**ile **S**ave command to save the worksheet to disk before clearing the screen or your last changes will be lost.*

Remember, the /**W**orksheet **E**rase command removes the worksheet from the computer memory but the saved file is still stored on disk and can be retrieved.

1 2 3

In this exercise you will clear the screen.

1. Select /**W**orksheet **E**rase

   The control panel prompts,

   ```
   No Yes
   Do not erase the worksheet; return to READY mode
   ```

   The selection for No is the default. To select Yes,

2. Press **Y**

   The screen will display a new worksheet.

   CAUTION: If the control panel displays the message, "No— WORKSHEET CHANGES NOT SAVED! Erase worksheet anyway?" select N (for No), save the file, and try again.

RETRIEVING A FILE

To retrieve an existing worksheet, use the /**F**ile **R**etrieve command. The worksheet is read from disk and a copy is placed in the computer's memory.

1 2 3

In this exercise, you will retrieve your balance sheet file.

← **2.4 shortcut**

- Retrieve an existing worksheet file (Palette 5)

2.4 resume →

1. Select /**F**ile **R**etrieve

   The control panel prompts, "Name of file to retrieve:"

   The current path is the default drive and directory. For instance, if your current drive is C: and the directory is \123, the control panel prompts, "Name of file to retrieve: C:\123*.wk?" Below the control panel prompts, 1-2-3 automatically displays the names of the worksheets that reside in the current directory, five at a time, in alphabetical order.

Your file is located in drive A. To specify drive A, you must first remove the prompt "C:\123*.wk?"

2. Press Esc twice

   The control panel now prompts, "Name of file to retrieve:" To specify drive A,

3. Type `A:` and press Enter

   The listing of the files residing on drive A: appears. To select a file, move the pointer to the desired file name.

4. Highlight "BALANCE1.WK1"

5. Press Enter

   A copy of the file is loaded into the computer's memory and the worksheet displays on your screen.

REPORTING CHANGES TO THE ACCOUNTING EQUATION

The balance sheet you prepared used the information present on June 1. You have decided to make a revised Balance Sheet every two weeks and maintain disk files of all versions. The following table shows the transactions that take place between June 1 and June 15. You will calculate the new figures for a Balance Sheet as of June 15, enter the updated values, and save the revised sheet as BALANCE2, saving a disk copy of both versions.

1 2 3

In this exercise, you will calculate new figures.

On your own, from the transactions listed below, calculate on a separate piece of paper the new figures for a balance sheet as of June 15, entering the updated values in your spreadsheet. Also, revise the date on your worksheet.

- On June 5 office rent was prepaid for 6 months in the amount of $6000. This decreased cash by $6000 and increased prepaid rent by $6000.
- On June 7, computer training was held for 10 students. They were invoiced for $1600 and will pay within 30 days. Increase Accounts Receivable by $1600 and increase both capital accounts by $800 each.
- On June 10, employee salaries were paid with cash in the amount of $2200. Decrease cash by $2200 and decrease capital accounts equally by $1100.
- On June 12, a partial payment was received for computer training from June 7. Increase cash by $600 and decrease Accounts Receivable by $600.

Compare your results with those shown in Figure 2.8.

SAVING AS A NEW FILE

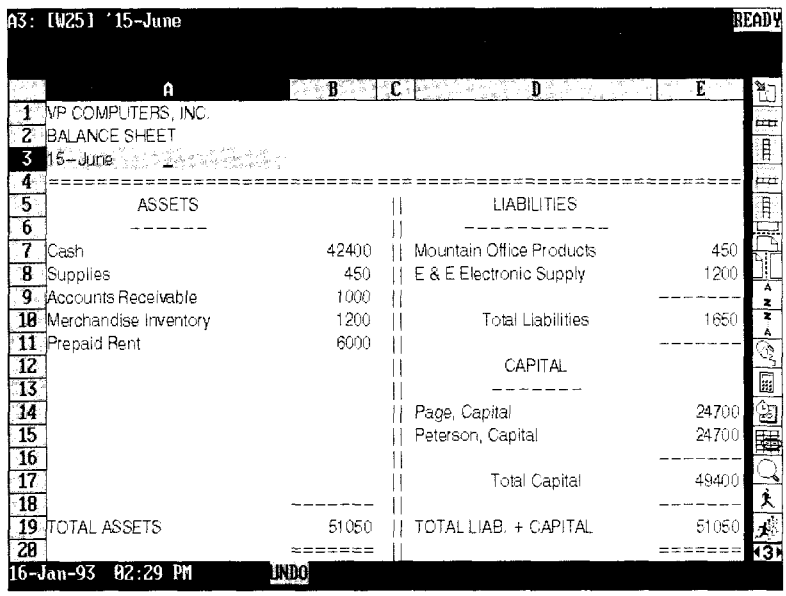
The currently displayed file is named BALANCE1.WK1. Before quitting Lotus, you will want to save the file—but with a new name.

1 2 3

In this exercise you will save and rename the file in one step.

1. Select /**F**ile **S**ave (do not press ENTER)

Figure 2.8



A3: [W25] '15-June READY

	A	B	C	D	E
1	VP COMPUTERS, INC.				
2	BALANCE SHEET				
3	15-June				
4	==========	==========		==========	==========
5	ASSETS			LIABILITIES	
6	------			-----------	
7	Cash	42400		Mountain Office Products	450
8	Supplies	450		E & E Electronic Supply	1200
9	Accounts Receivable	1000			-------
10	Merchandise Inventory	1200		Total Liabilities	1650
11	Prepaid Rent	6000			-------
12				CAPITAL	
13				-------	
14				Page, Capital	24700
15				Peterson, Capital	24700
16					-------
17				Total Capital	49400
18		-------			-------
19	TOTAL ASSETS	51050		TOTAL LIAB. + CAPITAL	51050
20		=======			=======

16-Jan-93 02:29 PM UNDO

The current file name is shown as BALANCE1.WK1.

To save this screen as a new file name,

2. Type **BALANCE2**
3. Press Enter
4. Quit Lotus

SUMMARY OF COMMANDS

In the space provided, write the keystroke(s) or command for each function.

FUNCTION	KEYSTROKES/MENU
Delete a cell entry	
Undo	
Erase a range	
Edit a cell entry	
Save a worksheet	
Change the column width	
Clear the screen	
Retrieve a worksheet	

SELF-TEST

2-1. List the four label prefixes and their respective cell positions.

2-2. What are the minimum and maximum column widths?

2-3. Why is it important to save your file frequently as you work rather than when it is finally completed?

2-4. The cell pointer is positioned in cell B10. The control panel displays that the cell is unanchored. Indicate how the address is shown. Indicate how the address appears, if it is anchored.

2-5. You have just erased a range of cells and discover that you have made an error. Is there a way to reverse this error, and if so, how?

2-6. Describe a range.

2-7. List the mathematical operators that can be used in a formula.

2-8. Should label prefixes ever be used on numeric entries? If so, when?

APPLICATION PROBLEMS

2-1. Helen Clark has started a wallpaper-hanging company called Paper Master.

1. Create a Balance Sheet similar to the spreadsheet example used in this lesson based on the following transactions for January.
   - **a.** Helen opened a business checking account and deposited $5000 of her personal savings to begin the business.
   - **b.** She paid $175 cash for business cards and letterhead.
   - **c.** She purchased wallpaper sample books on account for $7500.
   - **d.** Helen contributed personal supplies to the company, estimated value $750.
   - **e.** She received payment for the Anderson kitchen job in the amount of $275.
2. Save the file as BAL-JAN.
3. Change the cost of the business cards from $175 to $135. After you enter the $135, be sure to check your formulas to see if they adjusted.
4. Resave the file.
5. Erase the worksheet from the screen.

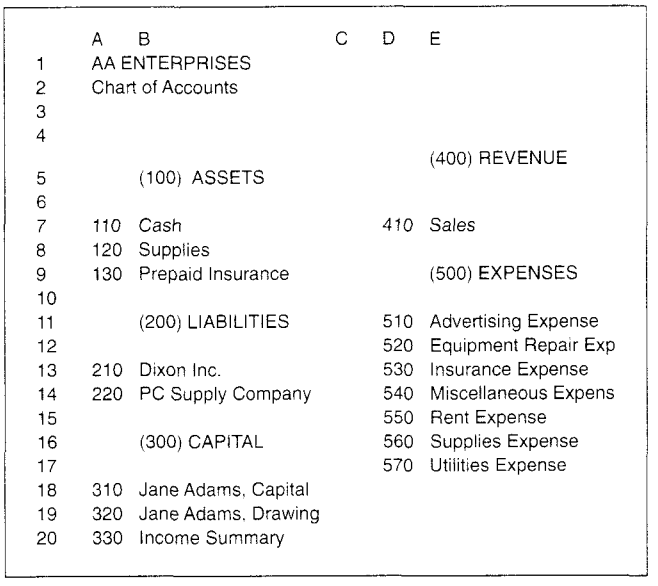
2-2.

1. Create a spreadsheet for the Chart of Accounts shown in Figure 2.9.
2. Save this spreadsheet file as CHTACCTS.WK1.

HINT: Use five columns for this exercise.

Columns A and D	Enter the account numbers as labels.
Columns B and E	Enter the account names and widen these columns as needed.
Column C	Use this blank column as a separating column for extra space.

Figure 2.9



	A	B	C	D	E
1	AA ENTERPRISES				
2	Chart of Accounts				
3					
4					(400) REVENUE
5		(100) ASSETS			
6					
7	110	*Cash*		410	*Sales*
8	120	Supplies			
9	130	Prepaid Insurance			(500) EXPENSES
10					
11		(200) LIABILITIES		510	Advertising Expense
12				520	Equipment Repair Exp
13	210	Dixon Inc.		530	Insurance Expense
14	220	PC Supply Company		540	Miscellaneous Expens
15				550	Rent Expense
16		(300) CAPITAL		560	Supplies Expense
17				570	Utilities Expense
18	310	Jane Adams, Capital			
19	320	Jane Adams, Drawing			
20	330	Income Summary			

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LESSON

3

USING LOTUS TO PREPARE A TRIAL BALANCE

OBJECTIVES

At the end of this lesson, you will be able to

- Set the global width
- Generate sequential numbers
- Format ranges of numeric values
- Use @DATE and @SUM functions
- Copy values, labels, and formulas
- Align ranges of labels
- Insert or delete rows and columns
- Print the spreadsheet

THE CASE STUDY

An accounting worksheet is a summary of financial information prepared at the close of the accounting period, usually at the end of each month. Accounting worksheets have four basic sections: accounts, trial balance, adjustments, and adjusted trial balance. All accounts are listed in the order they appear in the general ledger, and the balances shown at the end of the period are entered from the individual accounts in the trial balance columns showing both debits and credits. If adjustments are necessary, they are entered in the next two columns. After adjustments are balanced, the accountant extends the figures into the adjusted trial balance columns to show the outcome of the adjustments.

In this lesson you will prepare the trial balance section of the worksheet. The Lotus spreadsheet offers an excellent method of recording and calculating large amounts of information quickly and accurately.

STARTING POINT

Before beginning this lesson, start Lotus 1-2-3 and make sure that you have a blank worksheet on the screen.

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STARTING POINT

Before beginning this lesson, start Lotus 1-2-3 and make sure that you have a blank worksheet on the screen.

DESIGNING THE WORKSHEET

Figure 3.1 shows an example of a manually prepared trial balance journal. It will require four columns to record the sequence numbers, account names, debits, and credits.

Figure 3.1

AA Enterprises
Worksheet
For Month Ended December 31, 1994

	ACCOUNT TITLE	TRIAL BALANCE Debit	TRIAL BALANCE Credit
1	Cash	15 9 6 6 70	
2	Accounts Receivable	1 4 7 3 40	
3	Allow for Uncoll Accts		1 9 8 00
4	Merchandise Inventory	136 0 0 0 00	
5	Supplies	7 9 8 00	
6	Prepaid Insurance	6 6 5 00	
7	Equipment	12 0 0 0 00	
8	Accum Depr—Equip		6 4 0 0 00
9	Accounts Payable		3 7 4 7 00
10	Sales Tax Payable		2 1 4 9 00
11	Sally Bush, Capital		73 1 2 5 50
12	Sally Bush, Drawing	1 0 6 5 00	
13	Leon Moreno, Capital		73 0 9 2 00
14	Leon Moreno, Drawing	1 0 6 3 50	
15	Income Summary		19 3 7 0 00
16	Sales	5 1 6 7 50	
17	Purchases		
18	Bad Debts Expense	1 8 3 00	
19	Credit Card Fee–Expense		
20	Depr-Equip		
21	Insurance Expense		
22	Miscellaneous–Expense	3 9 9 40	
23	Rent Expense-Store	1 0 0 0 00	
24	Salary Expense	1 3 0 0 00	
25	Supplies Expense		
26		177 0 8 1 50	177 0 8 1 50

SETTING THE GLOBAL WIDTH

As mentioned in the previous lesson, a new spreadsheet always begins with all 256 columns preset at a width of 9 characters. Columns can be changed from a width of 1 up to as many as 240 characters. This setting can be made at any time—before or after cell information is entered.

When designing a new spreadsheet, determine a column width that satisfies the majority of the columns, then use the /**W**orksheet **G**lobal **C**olumn-Width command to set all columns at once. For those individual columns that require a different width, use the /**W**orksheet **C**olumn **S**et-Width command.

Using the global column command /**W**orksheet **G**lobal **C**olumn-Width changes all columns except those that have been changed individually with the /**W**orksheet **C**olumn **S**et-Width command. The columns that have been set individually take precedence over the global column-width setting.

1 2 3

In this exercise you will change the spreadsheet's global column width to 11 characters. This will accommodate values not exceeding 999,000.00 with a total number of characters (including punctuation) of no more than 10. This allows adequate room for the largest values plus additional space for readability. Since global settings are for all columns, the cell pointer may be in any cell.

1. Select /**W**orksheet **G**lobal **C**olumn-Width

   The control panel prompts, "Enter global column width (1..240): 9." To change this setting to a width of 11,

2. Press → twice or type 11

3. Press Enter

   Global settings are not displayed in cell references on the control panel. Instead they are shown in a Global Settings dialog box. To view these settings,

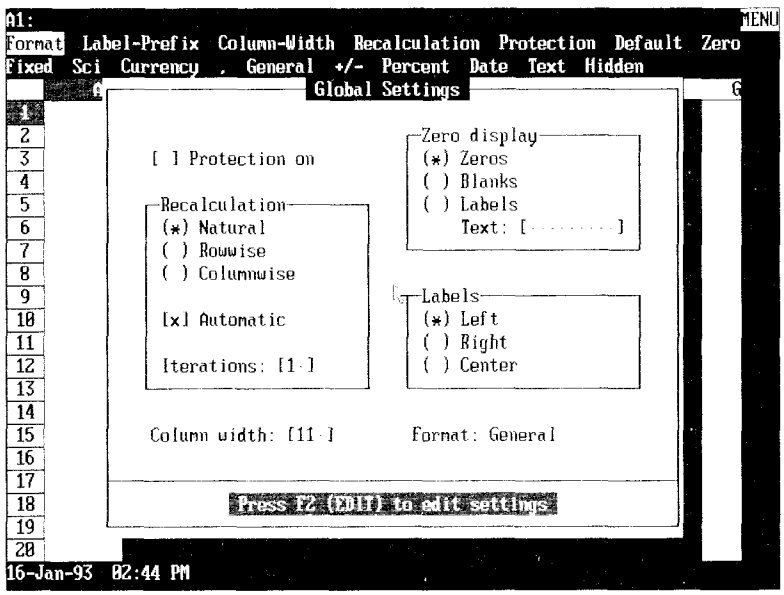
4. Select /**W**orksheet **G**lobal

   The Global Settings dialog box displays as shown in Figure 3.2. Notice that the Column width list box indicates a width of 11.

   To return to the worksheet screen,

5. Press Ctrl-Break (Changing a single column width with the command /**W**orksheet **C**ol-Set was covered in Lesson 2.)

Figure 3.2



6. On your own, change the "individual" column widths for the sequence numbers in column A and account titles in column B as shown below, using the /**W**orksheet **C**olumn **S**et-Width command

   Column A = 3 Column B = 25

   CAUTION: Be sure to place the cell pointer in the correct column before selecting the menu.

GENERATING SEQUENTIAL NUMBERS

The Data Fill command automatically inputs evenly sequenced numbers in a range of cells in lieu of the user's having to manually enter the numbers. This menu prompts the user for the range to fill, the beginning value, the ending value, and the even interval between each number. The numbers involved can be negative or positive, whole or fractions, and can be as large or as small as needed. The even intervals are called **step values**. An example of a step value of 1 would be 1, 2, 3, and so on, and an example of a step value of 10 would be 10, 20, 30, and so on. An example of an illegal step value might be 1, 7, 9, 15, 25, since the intervals between these numbers are inconsistent.

1 2 3 In this exercise you will first manually fill several cells. Then you will use the Data Fill command to automatically fill the Sequence No. column from cell A5 through cell A21, with numbers from 1 through 17, using a step value of 1.

1. Move to cell A5
2. Type 1 and press ↓
3. Type 2 and press ↓
4. Type 3 and press ↓
5. On your own, use /**R**ange **E**rase to erase cells A5..A7

1 2 3 In this exercise, you will use the automatic Data Fill feature to generate sequential numbers.

- Select the Fill icon in Palette 3 
- Drag the mouse to select range A5..A21

To complete the range selection and move to the next step of the menu,

- Either click on the Data Fill SmartIcon a second time, or click on the address A5..A21 in the control panel

2.4 resume →

← 2.4 shortcut

1. Move to cell A5
2. Select /**D**ata **F**ill

   The control panel prompts, "Enter fill range: A5"

   To anchor the cell pointer in order to shade the range to fill,

3. Press . (period)
4. Press the ↓ 16 times

   Cells A5 through A21 are highlighted.

5. Press Enter

   The control panel prompts, "Start: 0." Lotus 1-2-3 is suggesting the default beginning value of 0, and prompting you to accept the default or type the desired number. To specify 1,

6. Type 1
7. Press Enter

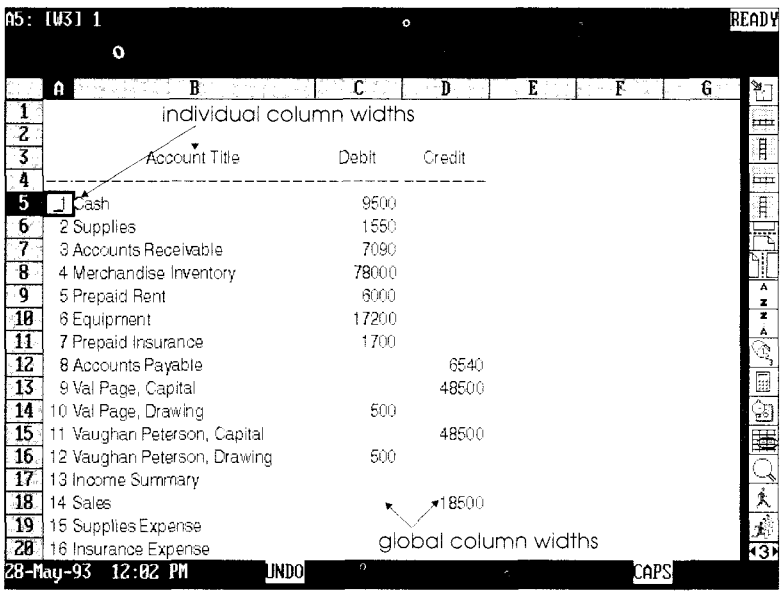
   The control panel prompts, "Step: 1." Lotus 1-2-3 is prompting you to enter the step value or interval. To accept the default of 1,

8. Press Enter

   The control panel prompts, "Stop: 8191." Lotus 1-2-3 is suggesting 8191 as the ending value since there are 8192 available rows in the worksheet. You may either enter 17 as the ending value or accept 8191 by pressing Enter, since you have already defined the range to fill as 17 cells (A5 through A21).

9. Press Enter
10. On your own, frame out the worksheet by entering centered column headings, repeating lines as needed (remember to use the \ as a repeater), and placing account titles in column B and values in columns C and D as shown in Figure 3.3

Figure 3.3



11. On your own, save the spreadsheet on drive A, naming the file WRKSHT06

    CAUTION: When saving a file for the first time, read the screen carefully. Be sure you do not replace one of your existing spreadsheets.

During the rest of this lesson, use your own judgment as to when you need to save the file. Remember, save often, since there is no automatic save or backup function.

FORMATTING A SPREADSHEET

Formatting in a spreadsheet controls the appearance of numbers, formulas, dates, and times. Formatting can be applied either globally for all cells in the worksheet, or individually for a specific range.

Lotus 1-2-3 offers ten different cell formats from which to choose: Fixed, Scientific, Currency, Comma, General, +/– (horizontal bar graphing), Percent, Date & Time, Text, and Hidden. The global default format is General, which means no commas, the decimal is suppressed, unnecessary zeros are suppressed, and negative numbers are displayed with a preceding minus sign.

Table 3.1 lists the most frequently used format options. The two-letter code listed in the column entitled Format Code displays with the cell contents in the control panel when cells are formatted by the /**R**ange **F**ormat command.

Table 3.1

MENU NUMBER	DESCRIPTION	CELL CONTENTS	FORMAT SELECTED	FORMAT CODE	FORMAT RESULTS
1	Fixed (*x.xx*)	1000.5	Fixed 0	(F0)	1001
		15.555	Fixed 2	(F2)	15.56
		.3333	Fixed 4	(F4)	.3333
3	Currency	5	Currency 2	(C2)	$5.00
	($*x,xxx.xx*)	2500.755	Currency 2	(C2)	$2,500.76
4	Comma	2500.755	Comma 2	(,2)	2,500.76
	(*x,xxx.xx*)	22.666	Comma 1	(,1)	22.7
5	General	$5.00	General	(G)	5
	(*x.xx*)	40000	General	(G)	40000
		1.79	General	(G)	1.79
7	Percent	.07	Percent 2	(P2)	7.00%
	(*x.xx*%)	1.5	Percent 1	(P1)	150.0%
		.123	Percent 2	(P2)	12.30%

Global Format

In this exercise, you will globally format the numeric values in the sheet to display numbers with commas and two decimal places. This change will affect all columns that contain numeric values. Your cell pointer can be located in any cell since a global setting controls the entire worksheet. This number style will also affect any new numeric data entered on this worksheet.

1. Select /**W**orksheet **G**lobal **F**ormat

   The control panel displays the menu shown in Figure 3.2. Notice that the current Global Format is shown as "General."

   To select the Comma option,

2. Select , (for Comma)

   The control panel prompts, "Enter number of decimal places (0..15): 2." This menu indicates that you may set the number of decimal places from 0 to 15, or accept the default of 2 by pressing Enter. For this worksheet example, accept this default,

3. Press Enter

   The resulting number format is evident where you now see the numbers in columns C and D punctuated and displaying two decimal places. However, you will also notice that the sequence numbers in column A have changed to asterisks, which indicates that the column width will not allow display of the entire number. These numbers were affected by the global format, changing them from whole numbers to numbers with two decimals. Therefore, you must format the sequence numbers in column A individually as whole numbers with 0 decimals.

   To check the global settings,

4. Select /**W**orksheet **G**lobal

   Notice that the lower-right corner displays "Format: Comma 2."

5. Press Esc 3 times to exit this screen

Range Format

Formatting individual ranges supersedes the global format settings. Range format should be used for the exceptions in the numeric styles on your spreadsheets.

1 2 3

In this exercise you will format a range.

1. Move to cell A5
2. Select /**R**ange **F**ormat
3. Select **F** (for **F**ixed—numbers without punctuation)
4. Type `0` (for zero decimal places)
5. Press Enter

   The control panel prompts, "Enter range to format: A5..A5."

6. Press End
7. Press ↓ (to highlight cells A5..A21)
8. Press Enter

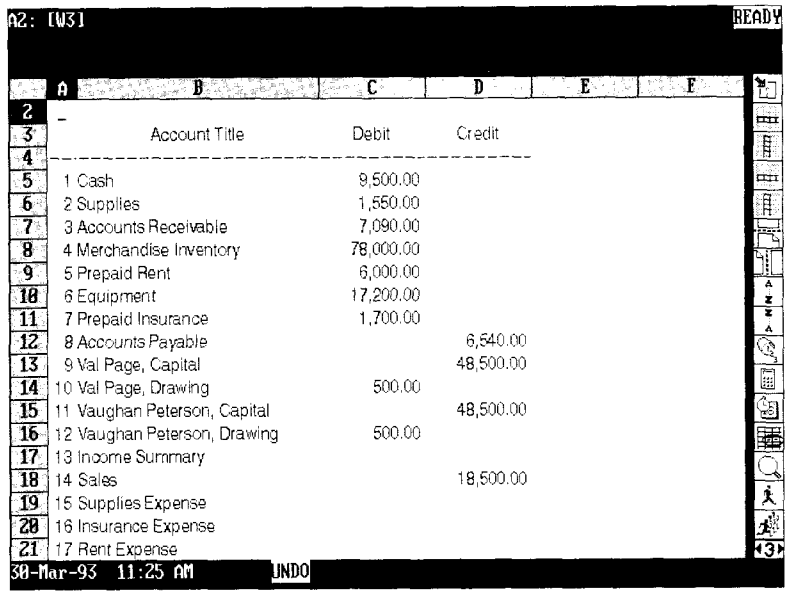
   NOTE: The format code (F0) for Fixed 0 decimals is displayed in the control panel on each of the cells A5 through A21, indicating that the format was applied with the Range menu, not Global.

   Compare your formatted spreadsheet with that in Figure 3.4.

BUILT-IN LOTUS @FUNCTIONS

Lotus @functions are the built-in formulas used to perform various calculations. These functions are prerecorded formulas that have already been verified for accuracy. All you need to do is specify the range of data to be calculated.

Figure 3.4



A2: [W3] READY

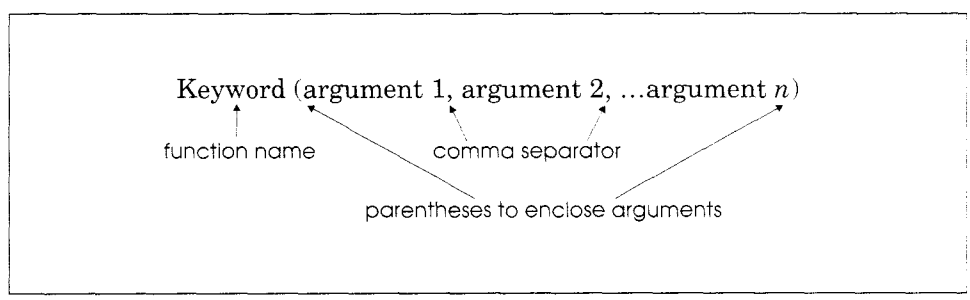
	A	B	C	D	E	F
2		-				
3		Account Title	Debit	Credit		
4		---	---	---		
5		1 Cash	9,500.00			
6		2 Supplies	1,550.00			
7		3 Accounts Receivable	7,090.00			
8		4 Merchandise Inventory	78,000.00			
9		5 Prepaid Rent	6,000.00			
10		6 Equipment	17,200.00			
11		7 Prepaid Insurance	1,700.00			
12		8 Accounts Payable		6,540.00		
13		9 Val Page, Capital		48,500.00		
14		10 Val Page, Drawing	500.00			
15		11 Vaughan Peterson, Capital		48,500.00		
16		12 Vaughan Peterson, Drawing	500.00			
17		13 Income Summary				
18		14 Sales		18,500.00		
19		15 Supplies Expense				
20		16 Insurance Expense				
21		17 Rent Expense				

30-Mar-93 11:25 AM UNDO

1-2-3 @Function Syntax

All @functions have a similar format that consists of three parts: the @ ("at" or "apiece") sign; the function name, called the **keyword**; and then (enclosed in parentheses) the specified range on which this function operates, called the **argument**. Figure 3.5 illustrates the correct @function format with arguments separated by commas and no spaces in the entire statement.

Figure 3.5



Date as an @Function

The DATE and TIME @functions convert dates and times into numbers so that arithmetic functions can be performed, such as calculating the difference between two dates or sorting a list of dates in chronological order.

The @DATE function can be used in the Aging of Accounts Receivable to calculate the age of an invoice by subtracting the invoice date from today's date.

The computer's internal calendar contains 200 years of dates beginning with January 1, 1900 as day number 1. Each consecutive day is numbered with an increment of 1, ending at day number 73,050 representing December 31, 2099. For example, the day number for January 1, 1994, is 34,335. The day numbers are used for calculation purposes, but can be formatted to display and print as a text date.

The @DATE function is entered (with no spaces) in the following structure:

@DATE(YEAR,MONTH,DAY)

For example, to enter the function and display the day number for January 1, 1994, enter,

@DATE(94,1,1)

Enter the year first, then the month, then the day.

@Function Help Index

There are approximately 90 different @functions available in most releases of Lotus. These @functions are divided into eight basic categories: mathematical and trigonometric, date and time, financial, statistical, database, logical, string, and special.

1 2 3

In this exercise you will use the Help index to view an @function list. Your cell pointer can be positioned anywhere on the spreadsheet.

1. Press F1 (for Help)
2. Press the ↓ to highlight "@Function Index"
3. Press Enter
4. Press ↓ to highlight "@DATE"
5. Press Enter

   Take time to read this Help screen, using the ↓ to display the remainder of this topic. To exit Help,
6. Press Esc

Entering @DATE

The trial balance presents the account balances as of the end of June, but you may have actually prepared the reports the first week of July.

1 2 3

In the following exercise you will use the @DATE function to enter the date this spreadsheet was prepared.

1. Move to cell B26
2. Type `Prepared on:`
3. Press →
4. Type `@DATE(94,7,2)`
5. Press Enter

   The cell displays 34,517.00 as the day number for July 2, 1994. Note that the global numeric format is controlling the display of this number, showing punctuation and two decimal places.

Formatting Dates

Recall that formatting cells in a spreadsheet controls the appearance of numbers, formulas, dates, and times. As you can see, the date formula entered from the exercise above is currently displayed as a day number in

the default format. For practical use in this accounting journal, the date needs to be formatted to display as "01-Jun-94," which is one of the standard date format styles. Table 3.2 lists the five available date formats.

Table 3.2

MENU NUMBER	DESCRIPTION	RESULTS
1	DD-MMM-YY Lotus Standard Long Form	01-Jun-94
2	DD-MMM Lotus Standard Short Form	01-Jun
3	MMM-YY Lotus Standard Short Form	Jun-94
4	MM/DD/YY Long International	06/01/94
5	MM/DD Short International	06/94

1 2 3 In this exercise, you will range format cell C26, containing the @DATE function.

1. Move to cell C26
2. Select /**R**ange **F**ormat **D**ate

   The control panel prompts the five possible date formats as listed in Table 3.2. The date style used in the journal shown in Figure 3.1 requires Date Format 1 (DD-MMM-YY).
3. Select **1**

   The control panel prompts, "Enter range to format: C26..C26," indicating the current cell pointer location as the beginning of the anchored range.
4. Press Enter

   Now cell C26 displays "02-Jul-94."

USING THE @SUM FUNCTION

Earlier in this lesson you learned how to use @functions while entering dates with the @DATE function. You will recall that @functions all have a similar format consisting of the @ sign, the function name (keyword), and the specified range on which the function operates (argument) enclosed in parentheses with no spaces.

The @SUM function is designed to add the numeric values in a specified range of cells. Any cells containing blanks, symbols, or labels in this range are calculated as a zero value and do not affect the result.

Therefore, using the @SUM function is a more efficient way to total entire columns since it requires fewer keystrokes and allows for adjustment of the range later if rows are inserted or deleted.

1 2 3

In this exercise you will sum column C (Debit) using an @SUM formula. The total will display in cell C23. The sum range will be from cell C5 through C22 to include blank row C22.

← 2.4 shortcut

- Move the mouse pointer to cell C23
- Drag the mouse to select range C5..C23
- When using the Sum SmartIcon, always include the answer cell in the selected range.
- Select the Sum icon in Palette 1

1. Move to cell C23

   HINT: Always begin an @function with the cell pointer in the cell to contain the result.

2. Type `@SUM(`
3. Press ↑ to cell C5

   The control panel prompts, "@SUM(C5"

   CAUTION: Do not press Enter *since the complete range has not been defined.*

4. Press . (to anchor)

   The control panel prompts, "@SUM(C5..C5"

   It is appropriate and recommended to include a line of dashes above or below the values range if there is a chance that the range may be expanded by adding or inserting new items at the top or bottom.

5. Press ↓ to include cell C22 (the cell of dashes, since in the future there may be new items added at the bottom of this list)

   The control panel prompts, "@SUM(C5..C22"

   To complete the @function syntax,

6. Type) (right parenthesis)

   To complete this function and enter the formula in the starting cell C23,

7. Press Enter

   The result should read, "122,040.00"

2.4 resume →

8. Move to cell C22
9. On your own, enter a repeating cell of dashes in cell C22 (remember to type \- for this line)
10. Move to cell C24
11. Enter repeating double lines to represent the total (\=)

THE COPY COMMAND

To duplicate the contents of one cell or a range of cells, use the **copy** command. The contents of these cells may be labels, numbers, or formulas.

Copying One Cell to Another

When copying from one cell to another, it is important that both the cell pointer be positioned in the **source cell** (cell containing the information to be copied) and that the **target cell** (cell to receive the copied information) be empty. If the target cell is not empty, the copy command will *replace* the existing cell contents.

1 2 3

This exercise will demonstrate how to copy the lines from the source cell (C22) to a target cell (D22). To position the cell pointer in the source cell,

← 2.4 shortcut

- Click on cell C22 (the source range)
- Select the Copy icon (Palette 1) 
- Click on cell D22 (the target range)
- Click again on the Copy icon

1. Move to cell C22

   To invoke the copy command,

2. Select /**Copy**

   The control panel prompts, "Copy what? C22..C22." Lotus 1-2-3 is assuming that the source cell is C22—notice the double address indicating that the range is anchored. To accept this prompt,

3. Press Enter

   The control panel prompts, "To where? C22."

   Lotus 1-2-3 is requesting the target cell address and is displaying your current cell address as a single address, therefore indicating that the cell pointer is not anchored and that any location in the worksheet can be "pointed" to as the target cell.

   To select cell D22,

4. Press →

   The control panel now prompts, "To where? D22." To accept this target address,

5. Press Enter

Copying One Cell to a Range

In the previous exercise, both the source and the target were each only one cell. Now you will learn to duplicate one source cell (lines in cell A27) into many cells as the target range (B27..D27). The steps are the same as for copying one cell to another, except when specifying the target range.

1 2 3

To position the cell pointer in the source cell,

1. Move to cell A27

   To fill this cell with a repeating dash,

2. Type \ -
3. Press Enter

   To copy this repeating dash all the way across row 27, invoke the copy command:

4. Select /**C**opy

   The control panel prompts, "Copy what? A27..A27." Lotus 1-2-3 is assuming that the source cell is A27—notice the double address indicating that the range is anchored. To accept this prompt,

5. Press Enter

   The control panel prompts, "To where? A27."

   Lotus 1-2-3 is requesting the target cell address and is displaying your current cell address as a single address, therefore indicating

that the cell pointer is not anchored. To specify the first cell of the target range,

6. Press [→]

   The control panel now prompts, "To where? B27." Instead of pressing [Enter] to accept this address as a single target cell, press the period key to anchor the address,

7. Press . (period)

   The control panel now prompts, "To where? B27..B27," indicating an anchored (double) address. To highlight the target range and extend the address through cell D27,

8. Press [→] twice

   The control panel now prompts, "To where? B27..D27." To accept this range and complete this command,

9. Press [Enter]

Copying a Range to a Range

In the previous exercises, you learned to copy a cell to a cell, and a cell to a range; now you will learn to copy a range (A27..D27) to a cell (A28). The steps are the same as for copying one cell to another, except when specifying the source range.

[1][2][3] To position the cell pointer in the first cell of the source range,

1. Move to cell A27

   To invoke the copy command,

2. Select /**C**opy

   The control panel prompts, "Copy what? A27..A27." Lotus 1-2-3 is assuming that the source cell is A27—the double address indicating that the range is anchored. To extend this range through cell D27,

3. Press [→] key 3 times

   The control panel prompts, "Copy what? A27..D27." To accept this range as the source,

4. Press [Enter]

   The control panel prompts, "To where? A27."

   Lotus 1-2-3 is requesting the target cell address and is displaying your current cell address as a single address, therefore indicating that the cell pointer is not anchored. To move to the first cell of the target range,

5. Press [↓] to move to cell A28

   The control panel now prompts, "To where? A28." It is not necessary to extend the target range to cell D28 since 1-2-3 assumes that the target range is to be the same size and shape as the source range.

   To accept this address as a single target cell,

6. Press [Enter]

COPYING FORMULAS

Earlier in this lesson you learned how to use the copy command. This special section is devoted to the effects of the copy command on formulas.

Relative addressing is the default type of formula created with 1-2-3. This means that whenever changes occur in the spreadsheet layout, the formulas adjust as needed to their new location. When you copy cells containing formulas, the addresses of the source cells are automatically adjusted to reflect the addresses of the target location. For example, if the formula @SUM(A1..A10) is copied to column B, it will read "@SUM(B1..B10)." If a row is inserted between cells B1 and B10, the @SUM formula will adjust to include the new row—@SUM(A1..A11) and @SUM(B1..B11).

1 2 3

In this exercise, you will copy the @SUM formula from cell C23 to D23.

1. Move to cell C23
2. Press /**C**opy

   The control panel prompts, "Copy what? C23..C23"

   To accept this address as the source range,
3. Press Enter

   The control panel prompts, "To where? C23"
4. Press →

   The control panel prompts, "To where? D23"

   To accept this address as the target range,
5. Press Enter
6. Move to cell D23

   NOTE: The results displayed in both cells C23 and D23 read "122,040.00," indicating that the accounts are in balance. But notice in the upper left-hand corner of the screen that the copy command adjusted the cell coordinates of the @SUM formula in column D to reflect the addresses of the new range.
7. On your own, delete the contents of cells D22 and D23
8. On your own, practice copying the total lines and the @SUM formula from column C to column D

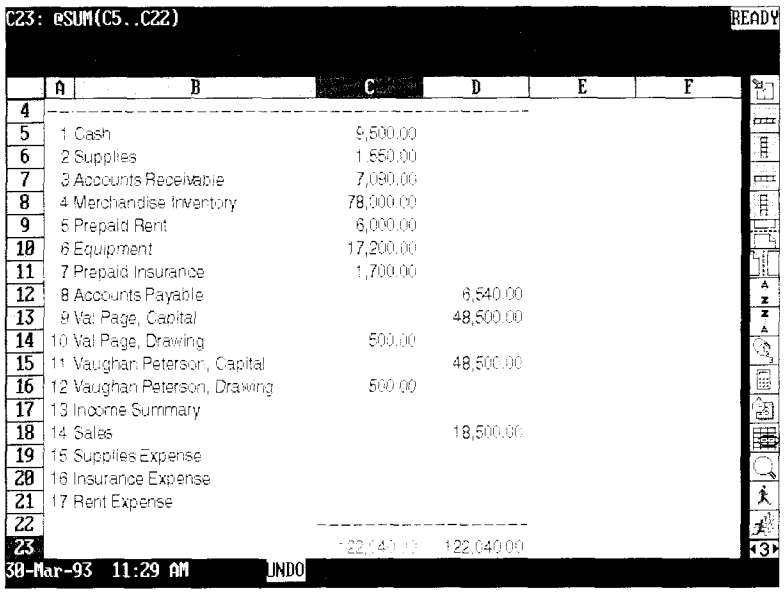
   HINT: All three cells (C22..C24) could be copied to column D in one copy sequence.
9. On your own, save the worksheet

   Compare your screen to the one shown in Figure 3.6.

ALIGNING RANGES OF LABELS

In previous lessons you learned to adjust the alignment of labels by using F2 to edit the label prefix symbol of a cell. Whenever labels have been used as descriptive headings over numeric columns, the numbers are always aligned on the right and the labels are usually placed on the left—

Figure 3.6



causing an offset appearance. Lotus 1-2-3 has provided a menu selection to easily correct this problem.

Release 2.4 users may use the following SmartIcons on Palette 2 to align a range of labels:

 Left-aligns labels in a range.

 Centers labels in a range.

 Right-aligns labels in a range.

1 2 3

In this exercise, the label headings (Debit and Credit) in cells C3 and D3 could be right-aligned to improve the readability of these columns.

← 2.4 shortcut

- Drag the mouse to select cells C3..D3
- Select the Right-Alignment SmartIcon (Palette 2) 

1. Move to cell C3
2. Select /**R**ange **L**abel

   The control panel prompts, "Left Right Center" as the three placement choices for labels.

   To select right alignment,
3. Type **R** (for right)

   The control panel prompts, "Enter range of labels: C3..C3"

   To extend the range to D3,
4. Press →
5. Press Enter

2.4 resume →

   Notice that the label prefix has changed from ^ (center alignment) to " (right-aligned), shown with the cell contents in the control panel.
6. On your own, change cells C3 and D3 back to centered

INSERTING OR DELETING ROWS AND COLUMNS

Rows and columns can be inserted or deleted at any location in the worksheet, and all existing formulas and global settings will automatically adjust accordingly.

The cell pointer location is important since it determines where the new row(s) or column(s) are inserted or deleted. New rows are always inserted above and new columns are always inserted to the left of the current cell pointer. Lotus 1-2-3 assumes that the row and column to be deleted begin at the current cell pointer location. A range can be specified to insert or delete several rows or columns.

Because the maximum size of a worksheet is 8192 rows and 256 columns, the new rows and columns are actually the last blank row(s) from the bottom and the last blank column(s) from the right.

CAUTION: If you enter information on the last row or column of a worksheet, 1-2-3 assumes that the entire worksheet is filled and that therefore no blank row(s) or column(s) are available for inserting. Inserted row(s) always extend the full width of the spreadsheet affecting all columns, while inserted column(s) extend the full height of the spreadsheet affecting all rows.

The following 2.4 SmartIcons (on Palette 3) are used to insert or delete rows and columns:


Inserts one or more rows above the highlighted range.


Inserts one or more columns to the left of the highlighted range.


Deletes all rows in the highlighted range.


Deletes all columns in the highlighted range.

1 2 3

In this exercise, you will insert one new row above row 22. You will perform this insert from column A, but the cell pointer could be anywhere on row 22.

1. Move to cell A22

   To insert one row above the present location,

← 2.4 shortcut

- Click on the Insert row SmartIcon (Palette 3) 

2. Select /**W**orksheet **I**nsert **R**ow

   The control panel prompts, "Enter row insert range: A22..A22." Even though the prompts displays only one cell address, remember that inserted row(s) always extend the full width of the worksheet, affecting all 256 columns. To accept this menu,

3. Press Enter

2.4 resume →

Your cell pointer is in cell A22, which is now a blank row.

The blank row was taken from the bottom of the sheet (row 8192) and inserted into row 22, and all other rows were moved down and addresses adjusted.

4. Move to cell C24

   Note that the @SUM formula range has been adjusted to include the newly inserted row (C5..C23).

   CAUTION: It is advisable to save the worksheet before performing a row or column delete command in case you inadvertently delete a wrong portion of the worksheet.

   To delete a row, position the cell pointer anywhere on the desired row. In this example position the cell pointer in cell A22.

5. Move to cell A22

- Click on the Delete row SmartIcon (Palette 3) 
- A dialog box appears to confirm before completing this deletion
- Select **OK** from the Delete Row dialog box

2.4 resume →

← 2.4 shortcut

6. Select /**W**orksheet **D**elete **R**ow

   The control panel prompts, "Enter range of rows to delete: A22..A22." To delete this row,

7. Press Enter

8. Move to cell C23

   Notice that the @SUM formula range has once again adjusted to the correct range address.

   To add several rows,

9. Move to cell A3

← 2.4 shortcut

- Drag the mouse to select the range A3..A6
- Click on the Insert row SmartIcon (Palette 3) 

10. Select /**W**orksheet **I**nsert **R**ow

    The control panel prompts, "Enter row insert range: A3..A3." To insert four rows,

11. Press ↓ 3 times

    The control panel prompts, "Enter row insert range: A3..A6." To finalize,

12. Press Enter

2.4 resume →

Notice that the remaining rows of the spreadsheet have moved down four rows and all cell addresses have adjusted.

13. Press Home

    Now type report headings in the new rows at the top of the sheet. Even though column A is very narrow, the appropriate method of entering long labels is to type them in one column and let them span several cells.

14. Type `VP COMPUTERS, INC.`

15. Press ↓

16. Type `WORKSHEET`

17. Press ↓

18. Type `FOR THE MONTH ENDING JUNE 30, 1994`

19. Press Enter

20. Move to cell C6

    To enter the title "Trial Balance" and position it to span both columns C and D, you must type a few spaces before the text to balance the label between the two columns.

21. Press Spacebar 4 times

22. Type `Trial Balance`

23. Press Enter

24. On your own, create a row of repeating dashes on row 5 (practice using the /**C**opy command)

25. On your own, save the file

26. On your own, try inserting a column between columns A and B. Then delete it

    Compare your screen with that in Figure 3.7.

Figure 3.7

	A	B	C	D
1	VP COMPUTERS, INC.			
2	WORK SHEET			
3	FOR THE MONTH ENDING JUNE 30, 1994			
4				
5				
6			TRIAL BALANCE	
7		ACCOUNT TITLE	DEBIT	CREDIT
8				
9	1	Cash	9,500.00	
10	2	Supplies	1,550.00	
11	3	Accounts Receivable	7,090.00	
12	4	Merchandise Inventory	78,000.00	
13	5	Prepaid Rent	6,000.00	
14	6	Equipment	17,200.00	
15	7	Prepaid Insurance	1,700.00	
16	8	Accounts Payable		6,540.00
17	9	Val Page, Capital		48,500.00
18	10	Val Page, Drawing	500.00	
19	11	Vaughan Peterson, Capital		48,500.00
20	12	Vaughan Peterson, Drawing	500.00	
21	13	Income Summary		
22	14	Sales		18,500.00
23	15	Supplies Expense		
24	16	Insurance Expense		
25	17	Rent Expense		
26				
27			122,040.00	122,040.00
28				
29				
30		Prepared on:	02-Jul-94	
31				
32				

PRINTING THE WORKSHEET

To print the currently displayed worksheet, select /**P**rint **P**rinter for the main Print menu and dialog box.

The default settings for margins, page length, and name of defined destination printer are shown in the dialog box.

Nothing will be printed until you specify the range to print. Note that this area of the dialog box should be empty. After the range has been defined, make sure that the printer is on and on-line and select **GO**.

1 2 3

In this exercise you will print cells A1 through D32 to print the entire spreadsheet.

1. Get the printer ready (for dot-matrix printers, make sure the perforation is set at top of ribbon), turn the power on, and check to see that the on-line light is illuminated
2. Move to cell A1

← 2.4 shortcut

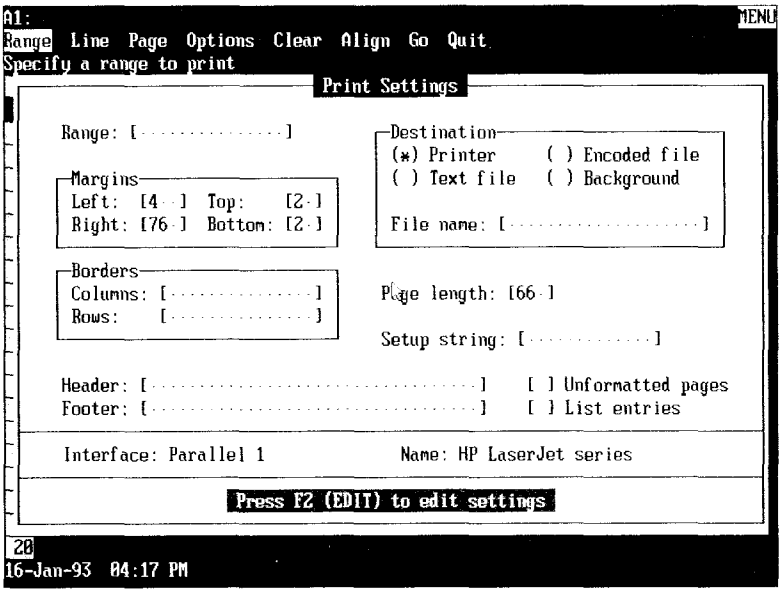
- Drag the mouse to select cells A1..D32 for the print range
- Click on the Print Smart-Icon (Palette 1)

3. Select /**P**rint **P**rinter

   Compare your screen to that shown in Figure 3.8.
4. Select **R**ange

   The control panel prompts that the current address is A1. Since the address is displayed as a single reference (A1), that means that the address is *not* anchored.

Figure 3.8



5. Press **.** (period) to anchor the cell pointer

   Notice that the address changes to a double reference (A1..A1) for an anchored address. To select cells A1 thru D32,
6. Press → 3 times and ↓ 31 times
7. Press Enter

   NOTE: The address A1..D32 now displays as the print range in the print dialog box.

To instruct Lotus that the printer is at the top of the paper,

8. Select **A** (for **A**lign)

To begin printing,

9. Select **G** (for **G**o)

To eject the printed page from a dot-matrix printer,

10. Select **P** (for **P**age)

*CAUTION: For laser printers, press **O**n-Line, **F**orm Feed, **O**n-Line.*

To exit the Print menu and return to the READY mode,

11. Select **Q** (for **Q**uit)

2.4 resume →

12. Save the file (your print settings will be saved with the spreadsheet)
13. Quit Lotus

SUMMARY OF COMMANDS

FUNCTION	KEYSTROKES/MENU
Set /check global width	
Create sequence numbers	
Set /check global format	
Set range format	
Center labels in a range	
Insert column	
Delete row	
Print the current worksheet	

SELF-TEST

3-1. How can you tell from the screen if the width of a column was set globally or individually?

3-2. Does the /**D**ata **F**ill command generate labels or numbers?

3-3. How can you tell from the screen if numeric formatting has been set globally or by the range?

3-4. Which format style would be necessary for the following displayed numbers?

$3,000.00
3,000.00
3000

3-5. Which range format style was used to create the following format codes in the control panel?

(,2)
(F0)
(C0)
(D1
(P2)

3-6. Describe the formal syntax of an @function.

3-7. Are spaces allowed in any @function?

3-8. Is there a difference between these two date entries? If so, explain.

'1/12/87
@DATE(87,1,12)

3-9. Create an @DATE formula to determine the day number for your birthday.

3-10. Is there a difference between the following two formulas? If so, explain.

@SUM(A1..A25)
+A1+A25

3-11. Explain the difference between the "source" and the "target" cells in a copy command sequence.

3-12. Can you delete a row of data from the spreadsheet and keep the information? Where does the row (and its data) go?

APPLICATION PROBLEMS

3-1. As the accountant for VP Computers, Inc., you are requested to create a journal listing each transaction by Transaction Number, Account Number, Account Name, Date, Source Document Number, and Debit or Credit amount, with a running total to make sure the accounts are in balance.

Create the following spreadsheet to reinforce the following Lotus concepts learned in this lesson :

1. Create sequence numbers with the /**D**ata **F**ill command.
2. Account numbers are keyed as labels.
3. Dates are keyed as @DATE functions and formatted as date cells.
4. Set global column width for the majority of the columns and use individual column width for the exception columns.
5. Set global format for commas with two decimal places.
6. Use @SUM for the totals.
7. Review the /**C**opy command whenever possible.
8. Save the worksheet, shown in Figure 3.9, as JOUR-06.WK1.

3-2. Create a spreadsheet modeled on the one shown in Figure 3.10. It is intended for recording increases and decreases in accounts arranged by transaction in the accounting equation form.

Be sure to enter a formula to calculate the balances after each transaction.

Figure 3.9

	A	B	C	D	E	F	G	H	I
1	VP COMPUTERS, INC.								
2	JOURNAL ENTRIES								
3	June 1994								
4									
5			ACCT.				DOC.		
6	NO.		NO.	TITLE	DATE		NO.	DEBIT	CREDIT
7									
8	1		5110	Purchases	01-Jun-94		C295	465.00	
9	2		1110	Cash	01-Jun-94		C295		465.00
10	3		6160	Rent Expense	01-Jun-94		C296	1,000.00	
11	4		1110	Cash	01-Jun-94		C296		1,000.00
12	5		6170	Salary Expense	01-Jun-94		C297	650.00	
13	6		1110	Cash	01-Jun-94		C297		650.00
14	7		6150	Miscellaneous Expense	02-Jun-94		C298	64.00	
15	8		1110	Cash	02-Jun-94		C298		64.00
16	9		5110	Purchases	02-Jun-94		C299	575.00	
17	10		1110	Cash	02-Jun-94		C299		575.00
18	11		1110	Cash	05-Jun-94		T5	3,763.00	
19	12		2120	Sales Tax Payable	05-Jun-94		T5		213.00
20	13		4110	Sales	05-Jun-94		T5		3,550.00
21	14		1150	Supplies	08-Jun-94		C300	92.00	
22	15		1110	Cash	08-Jun-94		C300		92.00
23	16		1110	Cash	12-Jun-94		T12	4,187.00	
24	17		2120	Sales Tax Payable	12-Jun-94		T12		237.00
25	18		4110	Sales	12-Jun-94		T12		3,950.00
26	19		6170	Salary Expense	15-Jun-94		C302	650.00	
27	20		1110	Cash	15-Jun-94		C302		650.00
28	21		3120	Val Page, Drawing	15-Jun-94		C304	500.00	
29	22		1110	Cash	15-Jun-94		C304		500.00
30	23		3121	Vaughan Peterson, Drawing	15-Jun-94		C305	500.00	
31	24		1110	Cash	15-Jun-94		C305		500.00
32									
33								12,446.00	12,446.00
34									

Figure 3.10

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	Supplies	Prepaid Insurance		Dixon Inc.	PC Supply Co.	
Beg. Balances	$1,500	$1,700	$600		$350	$200	$3,250
Transaction 1	-15	+15					
Balances	$1,485	$1,715	$600		$350	$200	$3,250
Transaction 2	-100				-100		
Balances	$1,385	$1,715	$600		$250	$200	$3,250
Transaction 3	+300						+300
Balances	$1,685	$1,715	$600		$250	$200	$3,550
Transaction 4	-100		+100				
Balances	$1,585	$1,715	$700		$250	$200	$3,550
Transaction 5	-400						-400
Balances	$1,185	$1,715	$700		$250	$200	$3,150
Transaction 6	+400						+400
Balances	$1,585	$1,715	$700		$250	$200	$3,550
Transaction 7	-100						-100
Balances	$1,485	$1,715	$700		$250	$200	$3,450

LESSON 4

WORKING WITH LARGE SPREADSHEETS AND THE LOTUS ADD-IN WYSIWYG

OBJECTIVES

At the end of this lesson, you will be able to

- Understand the term "WYSIWYG" and how it works with 1-2-3
- Attach WYSIWYG for an editing session
- Work with WYSIWYG menus
- Align text with WYSIWYG
- Format with WYSIWYG
- Set worksheet titles
- Use range names
- Print with WYSIWYG
- Save WYSIWYG enhancements

CASE STUDY

As the accountant of VP Computers, Inc., you have the responsibility to keep management informed of the financial status of the company. The trial balance portion of an accounting worksheet was created in the last lesson. To complete this worksheet to present to management, you will need to expand it to include the adjusting entries, income statement, and balance sheet sections for the month of June. Also, to enhance the appearance of your printed accounting report, you will use the add-in software WYSIWYG.

STARTING POINT

[illegible] start Lotus 1-2-3 and retrieve the spreadsheet from [illegible] worksheet for June called WRKSHT06.WK1.

DESIGNING THE EXPANDED WORKSHEET

Figure 4.1 shows an example of a completed accounting worksheet including all four sections.

Looking at this handwritten ledger sheet, you notice that it appears to require 9 columns for the various sections. But, when you use software such as Lotus to prepare this worksheet, the adjustment labels (a), (b), and so on, must reside in a separate column from the numeric value of the adjustments. Your spreadsheet will be expanded to a total of 11 columns.

WHAT IS WYSIWYG?

The term **WYSIWYG** is an acronym for "what you see is what you get," meaning the capability to see graphical changes on screen as you make them in a spreadsheet.

Figure 4.1

AA Enterprises

Worksheet

For The Month Ended December 31, 1994

	ACCOUNT TITLE	TRIAL BALANCE DEBIT	TRIAL BALANCE CREDIT	ADJUSTMENTS DEBIT	ADJUSTMENTS CREDIT	INCOME STATEMENT DEBIT	INCOME STATEMENT CREDIT	BALANCE SHEET DEBIT	BALANCE SHEET CREDIT	
1	Cash	15,966.70						15,966.70		1
2	Accounts Receivable	1,473.40						1,473.40		2
3	Allow for Uncoll Accts		198.00		(a) 18.00				216.00	3
4	Merchandise Inventory	136,000.00		(f) 6,000.00				130,000.00		4
5	Supplies	798.00			(c) 260.00			538.00		5
6	Prepaid Insurance	665.00			(d) 95.00			570.00		6
7	Equipment	12,000.00						12,000.00		7
8	Accum. Depr.—Equip.		6,400.00		(e) 200.00				6,600.00	8
9	Accounts Payable		3,747.00						3,747.00	9
10	Sales Tax Payable		2,149.00						2,149.00	10
11	Jane Adams, Capital		73,125.50						73,125.50	11
12	Jane Adams, Drawing	10,650.00						10,650.00		12
13	John Moore, Capital		72,092.00						72,092.00	13
14	John Moore, Drawing	10,633.50						10,633.50		14
15	Income Summary			(b) 6,000.00		6,000.00				15
16	Sales		193,700.00				193,700.00			16
17	Purchases	51,675.50				51,675.50				17
18	Bad Debts Expense			(a) 18.00		18.00				18
19	Credit Card Fee Expense	1,830.00				1,830.00				19
20	Depr Expense—Equip.			(e) 200.00		200.00				20
21	Insurance Expense			(d) 95.00		95.00				21
22	Miscellaneous Expense	399.40				399.40				22
23	Rent Expense—Store	10,000.00				10,000.00				23
24	Salary Expense	13,000.00				13,000.00				24
25	Supplies Expense			(c) 260.00		260.00				25
26		177,081.50	177,081.50	6,573.00	6,573.00	146,229.00	193,700.00	162,767.60	157,929.50	26
27	Net Income					47,471.00			47,471.00	27
28						193,700.00	193,700.00	162,767.60	162,767.60	28
29										29

WYSIWYG is the add-in software packaged with Lotus 1-2-3 Releases 2.3 and 2.4 for **spreadsheet publishing**, which means dressing up spreadsheets with typical word processing formatting enhancements, such as font changes, lines, shading, and many more options for printing and graphing.

How WYSIWYG and 1-2-3 Work Together

Release 2.3 users must load WYSIWYG into the computer's memory with 1-2-3. This feature can either be attached on a session-by-session basis or be set up to load automatically each time you start 1-2-3.

In Release 2.4, WYSIWYG is automatically installed and attached.

1 2 3

In this exercise, you will determine whether the WYSIWYG add-in is loaded:

1. Press **:** (colon)

   If the mode indicator displays "LABEL," the add-in is not attached since the colon activates the WYSIWYG menu. To return to the READY mode,

2. Press Esc

Attaching WYSIWYG for This Session

If you attach WYSIWYG manually, you must repeat this procedure for each Lotus session.

1 2 3

In this exercise, 2.3 users can practice loading WYSIWYG.

To load WYSIWYG,

1. Select /**A**dd-in **A**ttach

   The control panel lists all the file names with an .ADN file extension in the current directory. You must locate a file named WYSIWYG.ADN. This file may or may not be in the current directory; therefore, you may need to search in other subdirectories to locate this file. Once the file is located,

2. Highlight "WYSIWYG.ADN"

3. Press Enter

   The control panel prompts, "No-Key 7 8 9 10." The "No-Key" option instructs 1-2-3 not to attach this add-in to a function key. This is the recommended approach. To attach the WYSIWYG add-in,

4. Select **N**o-Key

   If WYSIWYG is already attached or programmed to automatically load, an error dialog box appears, telling you that the add-in is already attached. Press Esc to clear the error dialog box.

5. Select **Q** (for **Q**uit)

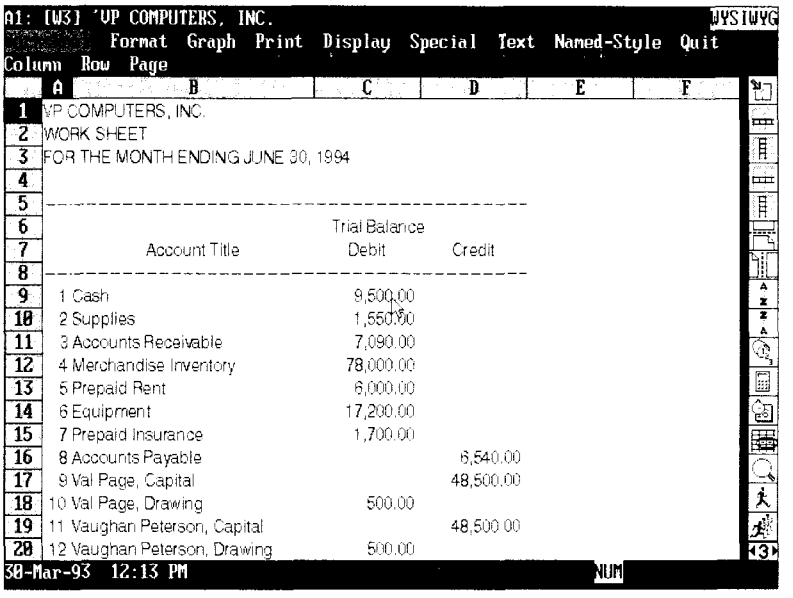
   Several changes automatically take place:

   - Mouse pointer changes from a block to an arrow.
   - Characters change from monospaced to proportional spacing.
   - In Release 2.4, icon palette displays.

6. Press **:** (colon)

When the colon is pressed, the WYSIWYG menu appears at the top of the screen. This menu is similar to the conventional 1-2-3 menu in its operation, but notice in Figure 4.2 that it contains enhancement options not found in the conventional menu.

Figure 4.2



7. Press [Esc] to exit this menu

Invoking WYSIWYG Automatically

If you prefer to load WYSIWYG each time you run 1-2-3, simply reconfigure the default setting.

[1][2][3]

In this exercise, you will view the system setup where add-ins, such as WYSIWYG, are set to load automatically for each Lotus session.

1. Select /**W**orksheet **G**lobal **D**efault **O**ther **A**dd-in **S**et

   The Default Setting dialog box appears as shown in Figure 4.3. The section of the dialog box labeled "Auto-attach add-ins" lists the add-ins that have already been set to load automatically. The control panel displays eight numbers, which correspond to the maximum eight slots in the "Auto-attach add-ins" section.

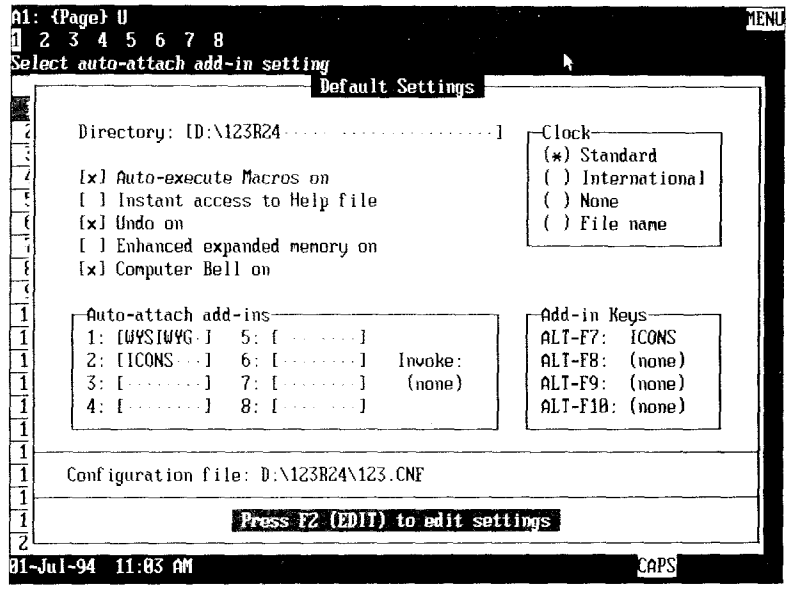
   NOTE: If WYSIWYG is not loaded on your computer, you may still continue with this lesson, simply omitting the WYSIWYG steps.

   TIP: If you are working on your own computer, have adequate RAM, and wish to create a setting for WYSIWYG to load automatically, select the first available number, highlight the WYSIWYG.ADN file, press [Enter]*, select* ***NO-KEY****, select* ***Y*** *(for* ***Y****es), select* ***Q*** *(for* ***Q****uit), select* ***U*** *(for* ***U****pdate), and select* ***Q*** *(for* ***Q****uit).*

   To exit from the menu,

2. Press [Control]-[Break]

Figure 4.3



WORKING WITH WYSIWYG MENUS

You have been displaying the 1-2-3 main menu by using the / (slash). Now that WYSIWYG is loaded into memory, the : (colon) invokes the WYSIWYG menu, giving additional menu options to enhance your worksheet. For your reference, the menu tree is displayed in the 2.3/2.4 Menu Reference at the back of the book.

All the concepts you learned in selecting menu options still apply in the WYSIWYG menu. The WYSIWYG menu looks very much like the conventional 1-2-3 menu, except that the options are limited to enhancing and printing worksheets, and changing the screen display. In the WYSIWYG menu, you cannot save, retrieve, clear the screen, quit Lotus, copy, format numbers, or do related operations.

1 2 3

In this exercise, you will practice using both the conventional 1-2-3 menu and the WYSIWYG menu.

1. Press /

   The conventional menu displays and the mode indicator prompts, "MENU." To exit the menu:

2. Press Esc

   To display the WYSIWYG menu,

3. Press :

   The WYSIWYG menu appears and the mode indicator prompts, "WYSIWYG." To exit this menu,

4. Press Esc

   If you have a mouse attached to your computer, you can display either menu with the mouse by doing the following:

5. Move the mouse pointer above the top frame of the worksheet

The WYSIWYG menu displays, since it was the last menu activated. To toggle between menus,

6. Click the right mouse button once

   To exit the menu using the mouse,

7. Move the mouse pointer down into the work area

   The menus automatically clear and the mode indicator goes back to the READY mode.

FRAMING OUT THE NEW COLUMN HEADINGS

To briefly review the global settings on this worksheet file, check the /**W**orksheet **G**lobal dialog box.

1 2 3

In this exercise, you will change worksheet settings as well as add column headings and labels.

1. Select /**W**orksheet **G**lobal

   NOTE: The Global column width is set to 11, and the Global numeric format is set to display with commas and two decimal places.

2. Press Esc 3 times or press Control-Break to return to the spreadsheet window

   Now let's set the column widths for the two narrow columns that contain the adjustment labels to a width of three characters each.

3. Move to cell E7
4. Select /**W**orksheet **C**olumn **S**et-Width
5. Type `3`
6. Press Enter
7. On your own, repeat these steps in column G

   To enter centered column headings for the new sections:

8. Move to cell F7
9. Type `^Debit`
10. Press → twice
11. Type `^Credit`
12. Press →
13. Refer to Figure 4.1 and, on your own, continue entering the labels "Debit" and "Credit" in cells I7 through L7, required for the expanded worksheet

    *HINT: You could use the /**C**opy command.*

Aligning Text with WYSIWYG

In the conventional 1-2-3 menu, center alignment of a label was accomplished within one column either with the use of the ^ (caret) label prefix or with spaces preceding the text to force this column heading to span two columns. Now that WYSIWYG is loaded, you can use the **:Text Align** command to center text across a range.

1 2 3

In this exercise, you will create main headings in row 6 that span both the Debit and Credit columns for each section of the worksheet.

Erase the contents of cell C6.

1. Move to cell C6
2. Press Delete
3. Type `Trial Balance` and press Enter

NOTE: This label is entered left-aligned in cell C6.

Use WYSIWYG to align the text to center across the range:

2.4 shortcut

- Drag the mouse to select cells C6..D6
- Select the Range Center icon (Palette 2)

4. Select **:Text Align Center**

The control panel prompts, "Select range to align: C6..C6." To extend the range to C6..D6,

5. Press →

The control panel prompts, "Select range to align: C6..D6."

6. Press Enter

2.4 resume

To enter the label "Adjustments" so that it spans cells F6, G6, and H6, type the label in cell F6 and issue the **:Text Align Center** command:

7. Move to cell F6
8. Type `Adjustments`
9. Press Enter

2.4 shortcut

- Drag the mouse to select cells F6..H6
- Select the Range Center icon (Palette 2)

10. Select **:Text Align Center**

To select range F6..H6,

11. Press → twice
12. Press Enter

2.4 resume

To center the label Income Statement across columns I and J,

13. Move to cell I6
14. Type `Income Statement`
15. Press Enter

← 2.4 shortcut

- Drag the mouse to select cells I6..J6
- Select the Range Center icon (Palette 2) 

2.4 resume →

16. Select **:Text Align Center**

    To select range I6..J6,

17. Press → once
18. Press Enter

    To center the label Balance Sheet across columns K and L,

19. Move to cell K6
20. Type `Balance Sheet`
21. Press Enter

← 2.4 shortcut

- Drag the mouse to select cells K6..L6
- Select the Range Center icon (Palette 2) 

2.4 resume →

22. Select **:Text Align Center**

    To select range K6..L6,

23. Press → once
24. Press Enter

    Now all the labels from K6 to L6 are centered in their respective columns.

25. On your own, save the file

    Compare your spreadsheet with that shown in Figure 4.4.

FORMATTING WITH WYSIWYG

In Lesson 3, the term "format" was used to mean solely a way of setting the style of numeric values only, with choices such as percentages, dollar signs, and commas. Now, WYSIWYG formatting can set the style of *any* character (whether values or labels) with an array of choices such as fonts, bold, underline, italic, shading, lines, boxes, and so forth.

Enhancing with WYSIWYG Lines and Underline

WYSIWYG has two very similar menu choices for creating lines in a worksheet: Underline or Lines. Underline is designed for filled cells exclusively and underscores only the characters in the cell. Lines are used for either filled or empty cells and always extend the entire width of the cell. Underlining can be single or double, and lines can be wide, double, or normal. Both of these options can be added before or after cell contents are entered.

1 2 3

In this exercise, you will delete the rows of dashes on rows 5 and 8 and add WYSIWYG underlining and lines.

1. Move to cell A8

   To delete this row of dashes,

2. Select **/Worksheet Delete Row**
3. Press Enter
4. Move to cell A5

Figure 4.4

	A	B	C	D	E	F	G	H	I	J	K	L
1	VP COMPUTERS, INC.											
2	WORK SHEET											
3	FOR THE MONTH ENDING JUNE 30, 1994											
4												
5												
6			*Trial Balance*			*Adjustments*			*Income Statement*		*Balance Sheet*	
7		Account Title	Debit	Credit		Debit		Credit	Debit	Credit	Debit	Credit
8												
9	1	Cash	9,500.00									
10	2	Supplies	1,550.00									
11	3	Accounts Receivable	7,090.00									
12	4	Merchandise Inventory	78,000.00									
13	5	Prepaid Rent	6,000.00									
14	6	Equipment	17,200.00									
15	7	*Prepaid Insurance*	1,700.00									
16	8	Accounts Payable		6,540.00								
17	9	Val Page, Capital		48,500.00								
18	10	Val Page, Drawing	500.00									
19	11	Vaughan Peterson, Capital		48,500.00								
20	12	Vaughan Peterson, Drawing	500.00									
21	13	Income Summary										
22	14	Sales		18,500.00								
23	15	Supplies Expense										
24	16	Insurance Expense										
25	17	Rent Expense										
26												
27			122,040.00	122,040.00								
28												
29												
30		Prepared on:	02-Jul-94									
31												
32												

To delete this row of dashes,

5. Select /**W**orksheet **D**elete **R**ow
6. Press Enter

To use the WYSIWYG underline function,

← 2.4 shortcut

- Drag the mouse to select cells C5..K5
- Select the Underline SmartIcon (Palette 2) U

7. Move to cell C5
8. Select **:F**ormat **U**nderline **S**ingle

The control panel prompts, "Change the attributes of range: C5..C5." To extend the range through cell K5,

9. Press → 8 times
10. Press Enter

2.4 resume →

NOTE: The underline command only underlines characters, not blank spaces or blank cells.

Now, to use the WYSIWYG Lines command to create a solid line at the bottom of row 6, instead of a row of dashes,

11. Move to cell A6

12. Select :**F**ormat **L**ines **D**ouble **B**ottom

    The control panel prompts, "Change the attributes of range: A6..A6." To extend the range through cell L6,

13. Press → 11 times

14. Press Enter

15. On your own, add WYSIWYG lines at the bottom of row 4 from cell A4 through cell L4

16. On your own, using :**T**ext **A**lign **C**enter, center the text labels currently in cells A1, A2, and A3 across the worksheet spanning the range A1..L3

Formatting with WYSIWYG Bold

Enhancing cells with bold makes the selected text appear darker and heavier, giving the characters emphasis. This format can be applied to cells either before or after data has been entered, and can be removed at any time.

1 2 3

This exercise will attach bold to the column headings on rows 5 and 6.

1. Move to cell A5

← 2.4 shortcut

- Drag the mouse to select cells A5..L6
- Select the Bold icon (Palette 1) B

2. Select :**F**ormat **B**old **S**et

   The control panel prompts: "Change the attributes of range: A5..A5." To extend the range through cell L6,

3. Press ↓ once and → 11 times

4. Press Enter

2.4 resume →

   To extend the totals and dashes from cells D24..D30 all the way across the worksheet,

5. Move to cell D24

6. Select /**C**opy

   The control panel prompts, "Copy What? D24..D24."

7. Press ↓ 6 times to highlight cells D24..D30

8. Press Enter

   The control panel prompts, "To Where? D24."

9. Press . (period) to anchor

10. Press → 8 times to highlight cells D24..L24

11. Press Enter

    Asterisks will appear in cells E25 and G25, since the sum gives a result of 0.00 and the width of those columns is too narrow to fully display the answers. Erase those cells:

12. Move to cell E25

13. Press Delete

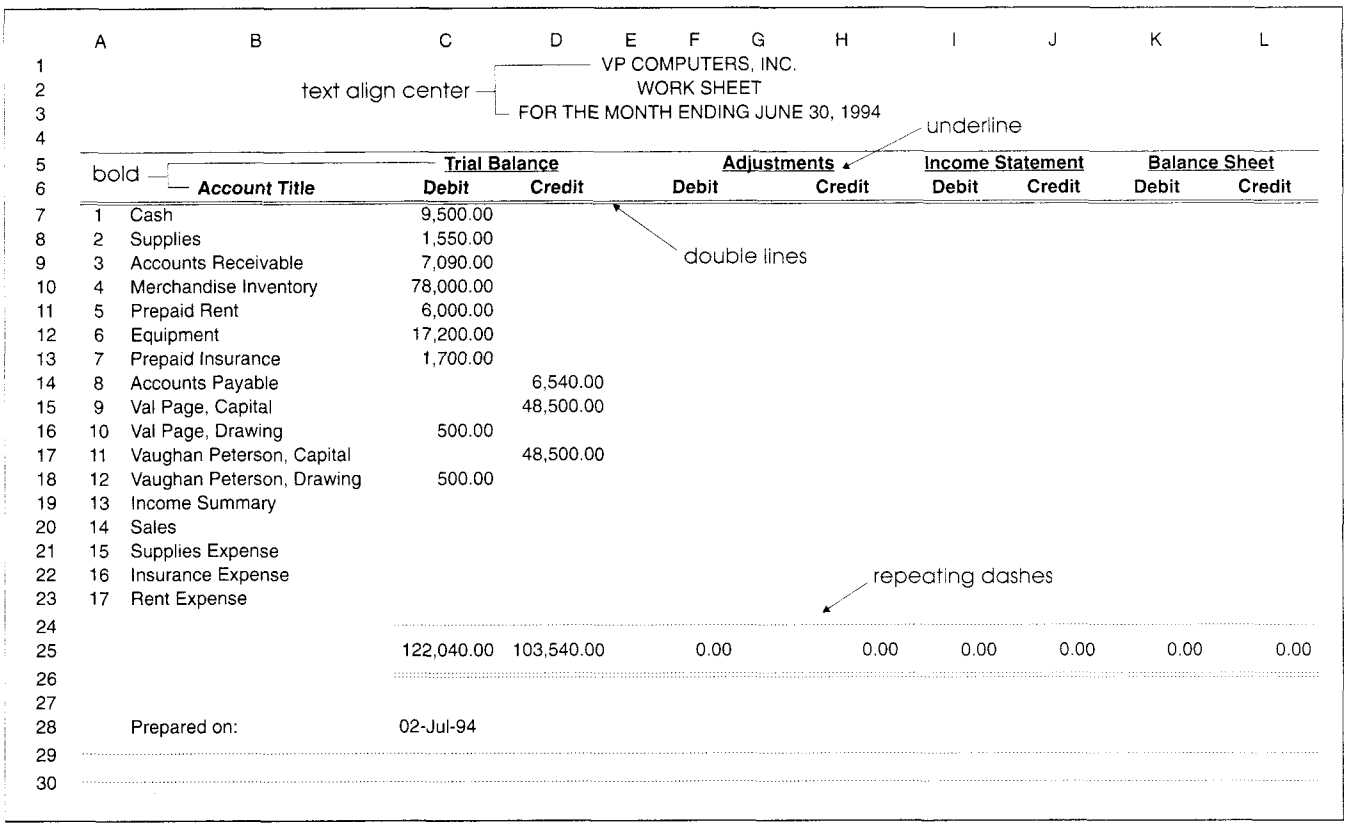
14. Move to cell G25

15. Press Delete

    Compare your screen with that shown in Figure 4.5.

16. Save the file

Figure 4.5



	Account Title	Trial Balance Debit	Trial Balance Credit	Adjustments Debit	Adjustments Credit	Income Statement Debit	Income Statement Credit	Balance Sheet Debit	Balance Sheet Credit
1	Cash	9,500.00							
2	Supplies	1,550.00							
3	Accounts Receivable	7,090.00							
4	Merchandise Inventory	78,000.00							
5	Prepaid Rent	6,000.00							
6	Equipment	17,200.00							
7	Prepaid Insurance	1,700.00							
8	Accounts Payable		6,540.00						
9	Val Page, Capital		48,500.00						
10	Val Page, Drawing	500.00							
11	Vaughan Peterson, Capital		48,500.00						
12	Vaughan Peterson, Drawing	500.00							
13	Income Summary								
14	Sales								
15	Supplies Expense								
16	Insurance Expense								
17	Rent Expense								
		122,040.00	103,540.00	0.00	0.00	0.00	0.00	0.00	0.00
	Prepared on:	02-Jul-94							

FREEZING TITLES ON THE SCREEN

When working on a large worksheet, you may view only the portion that fits on screen at a given time, thus making the entry of data both cumbersome and time consuming. Lotus 1-2-3 allows you to freeze either rows (horizontal) or columns (vertical), or both, along the top and left edges of the screen—allowing the remainder of the worksheet to scroll while the "frozen" areas remain in view.

1 2 3

In this exercise, you will freeze columns A and B and rows 5 and 6 so that these columns and rows are visible while you work on a large spreadsheet.

To prepare the screen and position the important column headings at the very top to the window, first move to a faraway cell:

1. Move to cell A30

   Then, move back with the GOTO key to set the column headings at the top of the screen:

   CAUTION: Be sure to use F5 *for this GOTO command, so that 1-2-3 positions row 5 at the top of the worksheet window.*

2. Press F5, type **A5**, and press Enter

   To move the cell pointer to cell C7 without disturbing your window setup,

3. Press → twice and ↓ twice

4. Select /**W**orksheet **T**itles

   The control panel prompts, "Both Horizontal Vertical Clear." The Both option freezes all rows and columns above and to the left of the cell pointer; the Horizontal option freezes all rows above the cell pointer; the Vertical option freezes all columns to the left of the cell pointer; and the Clear option unfreezes all title columns and rows.

5. Select **B**oth

6. Press ← or ↑

   You are unable to move the cell pointer up or left since all columns to the left and rows above are frozen.

7. Press → 9 times

   As you move to the right edge of the worksheet, notice that columns A and B remain visible on the screen, allowing you to view the accounts names in column B while working in a wide spreadsheet.

8. Press Home

   The cell pointer will only move to cell C7, since columns A and B and rows 5 and 6 are frozen.

9. Press ↓ 20 times

   As you move down the worksheet, notice that rows 5 and 6 remain visible on the screen, allowing you to view the lower rows in a tall spreadsheet.

   To temporarily work in the frozen area, use the GOTO command (F5).

10. Press F5

11. Type **A7**

12. Press Enter

    Columns A and B on the left of your screen are still frozen and 1-2-3 has displayed a temporary duplication of columns A and B in which you can work with no restrictions.

    To eliminate the temporary columns,

13. Press → 4 times

    To clear the titles from anywhere in the worksheet,

14. Select /**W**orksheet **T**itles **C**lear

    To validate that all frozen areas are cleared,

15. Press Home

16. On your own, repeat this section to reset the title and save the worksheet

COMPLETING THE WORKSHEET

In this section, you will complete the worksheet by filling columns E through L with the three remaining worksheet sections: Adjustments, Income Statement, and Balance Sheet.

The values in the Adjustments and Income Statement sections will be entered as numeric values. The Balance Sheet section will be calculated with formulas.

Posting the Adjustments

After the adjustments are analyzed in the T-accounts, the adjusting values can be entered into the worksheet in the Adjustments columns. For your convenience, you may want to set the worksheet titles again, so that you can view the account names as you enter numbers across the sheet.

1 2 3

In this exercise, you will enter the adjustment values into the worksheet.

Begin with the first adjustment label in cell G8.

1. Move to cell G8

   Enter the alphabetic letter for the adjustment label. The ' (apostrophe) is required to enter an item beginning with a symbol such as ([parenthesis].

2. Type `'(a)`
3. Press → to move to cell H8

   To enter the value of 260.00 as a credit for supplies in cell H8,

4. Type `260`
5. Press Enter

   To enter the corresponding debit account as Supplies Expense,

6. Move to cell E21
7. Type `'(a)`
8. Press →
9. Type `260`
10. Press Enter

    NOTE: The @SUM functions on row 25 are automatically totaling the columns, confirming that the adjustments are in balance.

11. On your own, enter the rest of the Adjustments section as shown in Figure 4.6, and save the file

    CAUTION: Be sure to check your balances on row 25.

Creating the Income Statement Section

On your own, complete the worksheet's Income Statement columns by copying values from the Trial Balance and Adjustments columns into columns I and J, to extend the up-to-date account balances.

NOTE: In the next section, formulas will be used to extend the columns instead of manual input or copy to create a calculated column.

Compare your screen with the worksheet shown in Figure 4.7 and save.

Figure 4.6

VP COMPUTERS, INC.
WORK SHEET
FOR THE MONTH ENDING JUNE 30, 1994

		Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Account Title	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
1	Cash	9,500.00							
2	Supplies	1,550.00			(a) 260.00				
3	Accounts Receivable	7,090.00							
4	Merchandise Inventory	78,000.00			(b) 4,500.00				
5	Prepaid Rent	6,000.00			(c) 1,000.00				
6	Equipment	17,200.00							
7	Prepaid Insurance	1,700.00			(d) 283.30				
8	Accounts Payable		6,540.00						
9	Val Page, Capital		48,500.00						
10	Val Page, Drawing	500.00							
11	Vaughan Peterson, Capital		48,500.00						
12	Vaughan Peterson, Drawing	500.00							
13	Income Summary			(b) 4,500.00					
14	Sales		18,500.00						
15	Supplies Expense			(a) 260.00					
16	Insurance Expense			(d) 283.30					
17	Rent Expense			(c) 1,000.00					
		122,040.00	122,040.00	6,043.30	6,043.30	0.00	0.00	0.00	0.00
	Prepared on:	02-Jul-94							

adjustments

Figure 4.7

VP COMPUTERS, INC.
WORK SHEET
FOR THE MONTH ENDING JUNE 30, 1994

		Trial Balance		Adjustments		Income Statement	
	Account Title	Debit	Credit	Debit	Credit	Debit	Credit
1	Cash	9,500.00					
2	Supplies	1,550.00			(a) 260.00		
3	Accounts Receivable	7,090.00					
4	Merchandise Inventory	78,000.00			(b) 4,500.00		
5	Prepaid Rent	6,000.00			(c) 1,000.00		
6	Equipment	17,200.00					
7	Prepaid Insurance	1,700.00			(d) 283.30		
8	Accounts Payable		6,540.00				
9	Val Page, Capital		48,500.00				
10	Val Page, Drawing	500.00					
11	Vaughan Peterson, Capital		48,500.00				
12	Vaughan Peterson, Drawing	500.00					
13	Income Summary			(b) 4,500.00		4,500.00	
14	Sales		18,500.00				18,500.00
15	Supplies Expense			(a) 260.00		260.00	
16	Insurance Expense			(d) 283.30		283.30	
17	Rent Expense			(c) 1,000.00		1,000.00	
		122,040.00	122,040.00	6,043.30	6,043.30	6,043.30	18,500.00
	Net Income						
	Prepared on:	02-Jul-94					

Creating the Balance Sheet Section

The next step to complete this worksheet is to extend the up-to-date balance of each asset account to the Balance Sheet columns.

1 2 3

In this next exercise, you will enter formulas to calculate the balances after admustments.

1. Move to cell K7

   Now, to enter a formula that automatically calculates the extension for the adjusted account, Cash, in cell K7, create the following formula, using the cell pointer:

2. `+C7-H7`
3. Press Enter

   To extend the assets account to the Balance Sheet columns:

4. On your own, use the /**C**opy command to copy from cell K7 to cells K8..K13
5. On your own, use the /**C**opy command to copy from cell K7 to cell K16 and again from cell K7 to cell K18
6. On your own, move to cell L14; enter the formula to extend the balance from column D for Accounts Payable and the two capital accounts—the formula should be `+D14`
7. On your own, copy from cell L14 to L15 and L17

Calculating Net Income or Loss

In the final step to complete this worksheet, figure and record the net income (or the net loss).

1. Move to cell B27

   *NOTE: You may need to clear Worksheet Titles if your cell pointer movement is inhibited (/**W**orksheet, **T**itles, **C**lear).*

2. Type `Net Income`
3. Press Enter
4. Move to cell I26

   Move the double ruled line down to row 29:

5. Select /**M**ove

   To highlight cells I26..L26 for the "Move What?" range,

6. Press → 3 times
7. Press Enter

   To highlight cell I29 for the "To Where?" range,

8. Press ↓ 3 times
9. Press Enter
10. Move to cell I27

Enter the following formula (use pointer method) to calculate the Net Income by subtracting the smaller total from the larger total of the Income Statement section:

11. `+J25-I25`
12. Press Enter
13. Move to cell L27

    Enter (using the pointer method) the following formula to subtract the smaller total from the larger total of the Balance Sheet section:

14. `+K25-L25`
15. Press Enter

CAUTION: Check to make sure that the Net Income balances between the Income Statement section and the Balance Sheet section before continuing.

To rule both the Income Statement and Balance Sheet sections,

16. Move to cell I27

    Use WYSIWYG to rule row 27 with a single line:

17. Select **:F**ormat **L**ines **B**ottom

    To select the range I27..L27,

18. Press → 3 times

    To add the columns of the Income Statement and Balance Sheet sections,

19. Press Enter
20. Move to cell I28
21. On your own, enter the formula: `+I25+I27`
22. On your own, copy the formula from cell I28 to cells J28..L28

    Compare your screen with that shown in Figure 4.8.

Summary of Steps

The following is the summary of steps needed to create a worksheet as shown in Figure 4.9 (on page 82).

i. Write the headings.

ii. Record the trial balance:

- Write the general ledger account titles in the Account Title column.
- Write the account balances in either the Debit or Credit column of the Trial Balance section.
- Rule and total the columns.

iii. Record the adjustments:

- Record the Debit or Credits for adjusting entries.
- Label the pairs of adjustments with matching alphabetic letters.

Figure 4.8

VP COMPUTERS, INC.
WORK SHEET
FOR THE MONTH ENDING JUNE 30, 1994

	Account Title	Trial Balance Debit	Trial Balance Credit	Adjustments Debit	Adjustments Credit	Income Statement Debit	Income Statement Credit	Balance Sheet Debit	Balance Sheet Credit
1	Cash	9,500.00						9,500.00	
2	Supplies	1,550.00			(a) 260.00			1,290.00	
3	Accounts Receivable	7,090.00						7,090.00	
4	Merchandise Inventory	78,000.00			(b) 4,500.00			73,500.00	
5	Prepaid Rent	6,000.00			(c) 1,000.00			5,000.00	
6	Equipment	17,200.00						17,200.00	
7	Prepaid Insurance	1,700.00			(d) 283.30			1,416.70	
8	Accounts Payable		6,540.00						6,540.00
9	Val Page, Capital		48,500.00						48,500.00
10	Val Page, Drawing	500.00						500.00	
11	Vaughan Peterson, Capital		48,500.00						48,500.00
12	Vaughan Peterson, Drawing	500.00						500.00	
13	Income Summary			(b) 4,500.00		4,500.00			
14	Sales		18,500.00				18,500.00		
15	Supplies Expense			(a) 260.00		260.00			
16	Insurance Expense			(d) 283.30		283.30			
17	Rent Expense			(c) 1,000.00		1,000.00			
		122,040.00	122,040.00	6,043.30	6,043.30	6,043.30	18,500.00	115,996.70	103,540.00
	Net Income					12,456.70			12,456.70
	Prepared on:	02-Jul-94				18,500.00	18,500.00	115,996.70	115,996.70

- Rule and total the columns.

iv. Extend all balance sheet account balances after adjustments to the Balance Sheet section:

- Extend the up-to-date balances of asset accounts to the Balance Sheet Debit column.
- Extend the up-to-date balances of liability accounts to the Balance Sheet Credit column.
- Extend the up-to-date balances of the owner's capital accounts to the Balance Sheet Credit column.
- Extend the up-to-date balances of the owner's drawing accounts to the Balance Sheet Debit column.

v. Extend all income statement account balances after adjustments to the Income Statement columns.

- Extend the up-to-date balance of the Income Summary account to the Income Statement column.
- Extend the up-to-date balance of each expense account to the Income Statement column.

vi. Figure and record the net income (or net loss).

- Add and rule the Income Statement and Balance Sheet columns.

- Calculate the net income (or net loss) for the Income Statement section by subtracting the smaller total from the larger total.
- Enter this calculated net income (or net loss) amount below the smaller of the two Income Statement columns.
- Calculate the net income (or net loss) for the Balance Sheet section by subtracting the smaller total from the larger total.
- Enter this calculated net income (or net loss) amount below the smaller of the two Balance Sheet columns.

vii. Total and rule the Income Statement and Balance Sheet columns with balancing totals.

Figure 4.9

VP COMPUTERS, INC.
WORK SHEET
FOR THE MONTH ENDING JUNE 30, 1994

		Account Title	Trial Balance Debit	Trial Balance Credit	Adjustments Debit	Adjustments Credit	Income Statement Debit	Income Statement Credit	Balance Sheet Debit	Balance Sheet Credit
1	1	Cash	9,500.00						9,500.00	
2	2	Supplies	1,550.00			(a) 260.00			1,290.00	
3	3	Accounts Receivable	7,090.00						7,090.00	
4	4	Merchandise Inventory	78,000.00			(b) 4,500.00			73,500.00	
5	5	Prepaid Rent	6,000.00			(c) 1,000.00			5,000.00	
6	6	Equipment	17,200.00						17,200.00	
7	7	Prepaid Insurance	1,700.00			(d) 283.30			1,416.70	
8	8	Accounts Payable		6,540.00						6,540.00
9	9	Val Page, Capital		48,500.00						48,500.00
10	10	Val Page, Drawing	500.00						500.00	
11	11	Vaughan Peterson, Capital		48,500.00						48,500.00
12	12	Vaughan Peterson, Drawing	500.00						500.00	
13		Income Summary			(b) 4,500.00		4,500.00			
14		Sales		18,500.00				18,500.00		
15		Supplies Expense			(a) 260.00		260.00			
16		Insurance Expense			(d) 283.30		283.30			
17		Rent Expense			(c) 1,000.00		1,000.00			
25			122,040.00	122,040.00	6,043.30	6,043.30	6,043.30	18,500.00	115,996.70	103,540.00
27		Net Income					12,456.70			12,456.70
28		Prepared on:	02-Jul-94				18,500.00	18,500.00	115,996.70	115,996.70

USING RANGE NAMES

As you can see, working with a large file can prove quite cumbersome and navigating can be difficult. To make your work easier, important areas of the worksheet can be named with logical text such as ADJUSTMENTS, instead of your having to remember the addresses E4..H26.

Range names can be up to 15 characters in length and can contain spaces and symbols. Range names can be assigned to filled or empty cells, to large ranges or individual cells.

Range names can be used instead of cell addresses in the following types of situations:

- To GOTO a cell location with F5

- To use range names in formulas in place of addresses
- To substitute the range name for addresses in any menu, such as /**P**rint **P**rinter **R**ange, /**R**ange **E**rase, /**C**opy, or /**M**ove

Creating a Named Range

To create a named range, first move to the beginning of the range name, use the menu /**R**ange **N**ame **C**reate to assign the name, define the range, and press Enter.

1 2 3

In this exercise, you will name the Trial Balance section of this spreadsheet.

1. Move to cell C5
2. Select /**R**ange **N**ame **C**reate

   The control panel prompts, "Enter name:"
3. Type `TRIAL-BAL`
4. Press Enter

   The control panel prompts, "Enter range: C5..C5." To highlight the range C5..D26,
5. Press ↓ 21 times
6. Press → once
7. Press Enter
8. On your own, repeat these steps to create the "ADJUSTMENTS" range name, from cells E5..H26

Using a Range Name

As mentioned earlier, range names can be used to go to a specific cell address—or used to specify cell addresses when printing, erasing, moving, or copying.

1 2 3

In this exercise, you will use the range names to GOTO a cell.

1. Press F5
2. Type `TRIAL-BAL`
3. Press Enter

   The cell pointer moved to the upper left-hand cell of the named range.
4. On your own, go to the range named ADJUSTMENTS

1 2 3

In this exercise, you will erase the range name ADJUSTMENTS and then use the Undo feature to restore it.

*CAUTION: Be sure to verify that the Undo feature is enabled (/**W**orksheet **G**lobal **D**efault) or save the worksheet before going on.*

1. Select /**R**ange **E**rase

   The control panel prompts, "Enter range to erase: E5..E5."
2. Type `ADJUSTMENTS`
3. Press Enter

Cells E5..H26 are erased.

4. On your own, use the Undo feature to restore the range name ADJUSTMENTS

Verifying a Range Name

To check the addresses of an existing named range, go through the /**R**ange **N**ame **C**reate menu to view or adjust the current ranges:

1. Press /**R**ange **N**ame **C**reate

   The control panel displays the current range names in alphabetical order. To select a range,

2. Highlight the range, "ADJUSTMENTS"
3. Press Enter

   The screen highlights the range and the control panel prompts, "Enter name: ADJUSTMENTS Enter range: E5..H26."

   To accept this range as currently defined,

4. Press Enter
5. On your own, save the file

PRINTING WITH WYSIWYG

In previous lessons you printed using the conventional 1-2-3 menu (/**P**rint). The WYSIWYG menu also has a print command (**:P**rint), which is the *only* way to print the WYSIWYG enhancements you have created. Another advantage to using the WYSIWYG print command is that many new automatic features are found in the print options. One example is print preview, which allows you to view the printout on screen; another is automatic compression, which easily reduces the size of the characters to fit the printed report on a single page; a third is a simple method of converting a **portrait orientation** (8.5" x 11") job to **landscape orientation** (11" x 8.5").

In this exercise, you will print the worksheet report with the WYSIWYG print menu. Since this spreadsheet is too wide to fit on a page, both compression and landscape orientation will be required.

Make sure that the WRKSHT06.WK1 file is retrieved and that your cell pointer is in cell A1.

1. Select **:P**rint

   The WYSIWYG Print Settings dialog box appears as shown in Figure 4.10. Some of the settings are predefined by 1-2-3: notice the margins, page size, destination printer name, and so on.

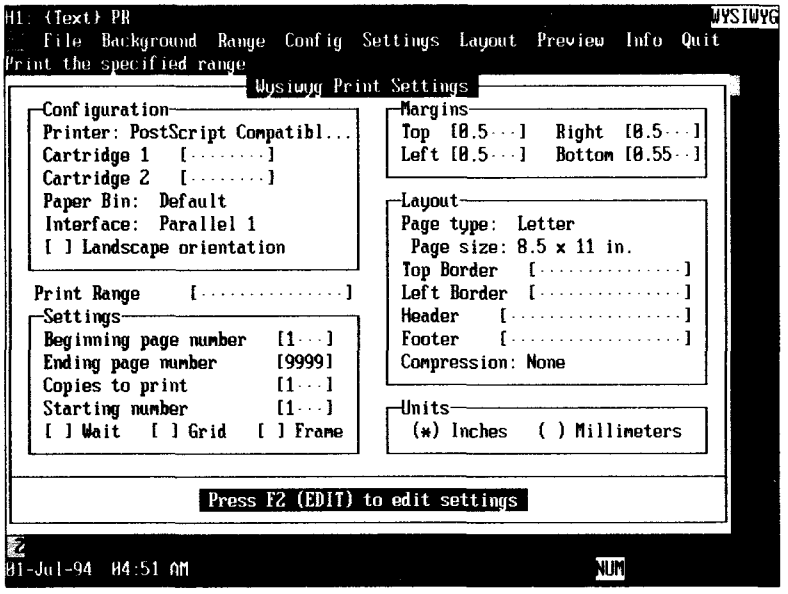
   In the next step you will set the print range.

2. Select **R**ange **S**et

   The control panel prompts, "Specify the range to print: A1." To anchor and extend the range to A1..L30,

3. Press . (period) to anchor

Figure 4.10



4. Press → 11 times and ↓ 29 times
5. Press Enter

   The Print Settings dialog box now displays and the print range is now set to read, A1..L30. The **:P**rint **P**review option allows you to view on the screen a picture of the printed spreadsheet. This is a time-saving feature, since you may notice errors or problems in your settings that can be corrected before printing.

6. Select **P**review

   As you can see, if the entire worksheet is printed in portrait style (8.5" x 11"), only 7 of the 12 columns will print on page 1.

   To view the next page, which is automatically created to accommodate the remaining four columns,

7. Press Page Down

   To exit the preview screen,

8. Press Esc

   If you have a laser printer, you can instruct 1-2-3 to print the worksheet sideways on the paper—landscape orientation. If you do not have a laser printer, skip steps 9 through 12. To change the orientation to landscape,

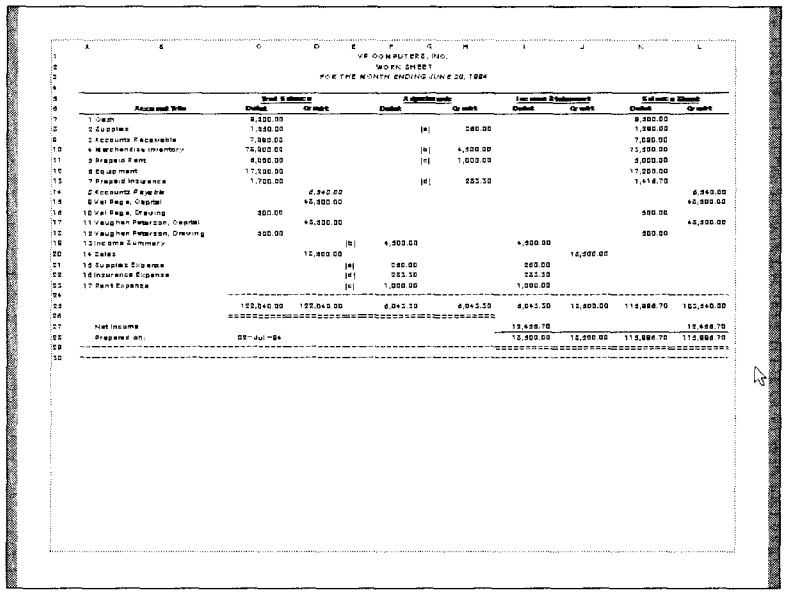
9. Select **C**onfig **O**rientation **L**andscape

   Look in the configuration section of the dialog box to see that the landscape orientation has been marked with an X. To return to the main print menu,

10. Press Esc

11. Select **P**review

Figure 4.11



Compare your worksheet to Figure 4.11. This time the spreadsheet has turned horizontal (landscape), but still only 10 of the 12 columns can print on page 1, so compression is necessary. To return to the print menu,

12. Press Esc

13. Select **L**ayout **C**ompression **A**utomatic **Q**uit

    In the layout section of the dialog box, compression is set to automatic, and 1-2-3 has already determined the percent of compression necessary to print the entire print range on one page.

14. Select **P**review

    This time the entire spreadsheet fits on one page and is ready to print. To return to the print menu,

15. Press Esc

    Make sure that your printer in turned on and that the on-line light is illuminated. To send the print job to the printer,

16. Select **G**o

SAVING WYSIWYG ENHANCEMENTS AND SETTINGS

So far you have saved your work using the /**F**ile **S**ave command, resulting in a file with a .WK1 extension that contains all the text and value entries, formulas, print settings, column widths, and the like. This file was created with the conventional 1-2-3 slash (/) menu—for example, WRKSHT06.WK1.

When you save using the /**F**ile **S**ave command, any WYSIWYG settings created with the colon [:] menu are automatically saved at the same time, but are stored in a separate file. Both files use the same file name (WRKSHT06), but the WYSIWYG file is denoted with an .FMT extension

(for "format"). For example, the corresponding WYSIWYG file tied to WRKSHT06.WK1 is named WRKSHT06.FMT. These two files always work together; therefore, whenever the worksheet file is saved or retrieved, 1-2-3 automatically performs the same function on the companion WYSIWYG file.

CAUTION: Never delete the .FMT file or your WYSIWYG enhancements will be lost.

1 2 3 In this final exercise, you will save your worksheet so that the WYSIWYG enhancements added in this lesson will be saved.

1. Select /**F**ile **S**ave

   Accept the current file name: WRKSHT06.WK1
2. Press Enter
3. Select **R**eplace
4. On your own, exit Lotus

SUMMARY OF COMMANDS

FUNCTION	KEYSTROKES/MENU
Invoke the WYSIWYG menu	
Align text with WYSIWYG	
Bold with WYSIWYG	
Set Titles	
Clear Titles	
Create a range name	
Print with WYSIWYG	

SELF-TEST

4-1. The term WYSIWYG is an acronym for what phrase?

4-2. What is the difference between manually and automatically loading WYSIWYG?

4-3. When using the WYSIWYG menu, what is the difference between Underline and Lines?

4-4. Two files are created when saving a worksheet containing WYSIWYG enhancements. What are the file extensions for these two files?

4-5. What is the purpose of setting worksheet titles?

4-6. How can you temporarily override the titles area to edit or enter text?

4-7. Name two reasons to create range names.

4-8. What command must be issued to print a worksheet with WYSIWYG enhancements?

APPLICATION PROBLEMS

4-1. The pet store PETS PERFECT opened on August 1. The owners need a recap of the year-end figures to analyze their first year in operation.

The unadjusted trial balance for PETS PERFECT is shown in Table 4.1.

1. Prepare a ten-column worksheet for the end of the year similar to WRKSHT06.WK1, including a classified income statement, balance sheet, and statement of owner's equity. Adjusting information is as follows:
   - Ending inventory was $47500
   - Used prepaid rent was $1250
   - Additional used supplies were $250
2. Save the file as PETS.WK.

Table 4.1

ACCOUNT TITLE	DEBIT	CREDIT
Cash	67000	
Inventory	73500	
Supplies	950	
Prepaid Rent	18000	
Fixtures & Equip	75000	
S. Smith, Capital		150000
S. Smith, Drawing	2000	
Sales		179550
Wages Expense	90000	
Utilities Expense	1800	
Rent Expense	800	
Supplies Expense	500	
	329,550.00	329,550.00

4-2. In this exercise you will retrieve one of your existing spreadsheet files that you completed in Lesson 2, use WYSIWYG formatting to enhance the sheet, and then print with WYSIWYG.

1. Retrieve file BALANCE1.WK1.
2. Format the headings (in cells A1..A3).
   a. Underline them.
   b. Attach bold and italic.
   c. Center across columns A through E.
3. Delete rows 6 and 13.

4. Bold and underline subheadings (ASSETS, LIABILITIES, CAPITAL).
5. Delete row 4 and substitute a continuous line at the bottom of row 3
6. Save and rename the file as BALANCE2.WK1.
7. Print with WYSIWYG.

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LESSON

5

AGING ACCOUNTS RECEIVABLE WITH ADVANCED LOTUS TECHNIQUES

OBJECTIVES

At the end of this lesson, you will be able to

- Use the @NOW function
- Use the @IF function
- Suppress zero display
- Protect worksheets
- Understand absolute and mixed cell reference
- Hide columns

THE CASE STUDY

In this lesson you will create a new spreadsheet to analyze the age (current, or past-due statement) of the accounts receivable for VP Computers, Inc. As their accountant, you are required to supply regular reports to management detailing the status of outstanding receivable accounts. In these reports you need to include the customer name, invoice number, date, and amount due as well as the breakdown of the ages of each invoice.

The tracking of accounts receivable requires use of some of the more advanced 1-2-3 formulas. For instance, the age of the accounts will be calculated using "if-then" logic in conjunction with date formulas.

STARTING POINT

Before beginning this lesson, start Lotus 1-2-3 and make sure that you have a blank worksheet on the screen.

For your reference, Figure 5.1 shows the Accounts Receivable Aging spreadsheet that you will complete in this lesson.

Figure 5.1

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4	AS OF:	01-Jul-94								
5						3%				
6	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
7	150	Martha Thomas	B4578	02-Jun-94	99.00	2.97	96.03			
8	110	Raymond Appel	A3901	02-May-94	2,508.60	75.26			2,508.60	
9	160	Elaine Winter	E4040	15-Jan-94	920.15	27.60				920.15
10	150	Martha Thomas	N3069	18-Mar-94	5,250.00	157.50				5,250.00
11	130	Charles Garvin	C1114	01-May-94	450.75	13.52			450.75	
12	110	Raymond Appel	D1414	14-Feb-94	300.48	9.01				300.48
13	140	David Stone	E5050	03-Jun-94	2,600.45	78.01	2,522.44			
14	120	Sally Burton	A2020	03-Jun-94	50.84	1.53	49.31			
15	150	Martha Thomas	B5555	20-Jun-94	145.17	4.36	140.81			
16	110	Raymond Appel	A4902	01-Jun-94	508.06	15.24		508.06		
17										
18					12,833.50	385.01	2,808.60	508.06	2,959.35	6,470.63
19										

CREATING AN AGED ACCOUNTS RECEIVABLE MODEL

In this exercise, you will build a spreadsheet to chart the aging of accounts receivable. You will be constructing this spreadsheet using concepts learned in previous lessons.

In this exercise, you begin the preliminary development by setting widths and formats as follows:

1. Set the Global column width to 11
2. Set the Global format to commas with 2 decimal places
3. Set Individual column width of column B to 20

Now, you will enter headings for columns A through I and enter the labels, dates, and numbers for the first five columns of the worksheet. Refer to Figure 5.2 as you proceed through this exercise.

Figure 5.2

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	CURRENT	30 TO 60	60 TO 90	OVER 90
7	150	Martha Thomas	B4578	02-Jun-94	99.00				
8	110	Raymond Appel	A3901	02-May-94	2,508.60				
9	160	Elaine Winter	E4040	15-Jan-94	920.15				
10	150	Martha Thomas	N3069	18-Mar-94	5,250.00				
11	130	Charles Garvin	C1114	01-May-94	450.75				
12	110	Raymond Appel	D1414	14-Feb-94	300.48				
13	140	David Stone	E5050	03-Jun-94	2,600.45				
14	120	Sally Burton	A2020	03-Jun-94	50.84				
15	150	Martha Thomas	B5555	20-Jun-94	145.17				
16	110	Raymond Appel	A4902	01-Jun-94	508.06				
17									

4. Type the column headings across row 6 as shown in Figure 5.2
5. Enter the information in columns A, B, and C as labels
6. Enter the dates in column D as @DATE functions
7. Format column D for Date, Style 1, using /**R**ange **F**ormat **D**ate
8. Enter the values in column E as numeric values
9. Right-align the headings of columns E through I, using /**R**ange **L**abel **R**ight
10. On your own, save this file, naming it `AGED-AR`

USING THE @NOW FUNCTION FOR CURRENT DATE

In earlier lessons you used the @DATE function to enter dates as formulas. Now you will learn the usage of the @NOW function to bring in today's date or time from the computer clock. @NOW automatically updates whenever the file is retrieved or recalculated, so that the date is always current. @NOW can be used either to print today's date in cells or to run date arithmetic formulas, which can calculate the difference between today and another date.

1 2 3

To prepare for this next exercise, you must first change your computer clock's date so that your spreadsheet coincides with the example dates in the aging worksheet example.

To exit to the DOS prompt so that the computer date can be changed, you will use the /**S**ystem command as follows:

1. Select /**S**ystem

   The 1-2-3 program is temporarily suspended and the DOS prompt appears, allowing you to perform unlimited DOS functions and then return to your 1-2-3 screen and the active worksheet.

   To change the system date to July 1, 1994,

2. Type `DATE`
3. Press Enter

   The screen will prompt, "Enter new date (mm-dd-yy)."

4. Type `07-01-94`
5. Press Enter

   The top line of the screen displays instructions on how to return to the 1-2-3 active worksheet. Note these directions for future reference. To return to 1-2-3,

6. Type `EXIT`
7. Press Enter

   Check the bottom left-hand corner of your screen to verify the correct date.

   CAUTION: This date change exists in memory only until your computer is powered off; therefore, the next time you restart your computer the actual current date will be used by 1-2-3. Remember

that the date formulas in this Accounts Receivable spreadsheet depend on using the imaginary date of 07-01-94. So, if you take a break and return to this lesson, reset the system clock.

The following steps use the @NOW function to display the computer's current date in column B with a descriptive label in column A:

8. Move to cell A4
9. Type `AS OF:`
10. Press →

    The cell pointer is positioned in cell B4. To enter the @NOW function,

11. Type `@NOW`
12. Press Enter

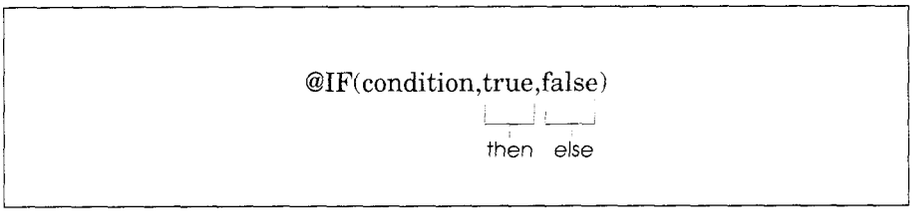
    Cell B4 displays the date number of "34,516.12," which is the machine date for 7/1/94.

13. On your own, use the /**R**ange **F**ormat **D**ate command to format this number to display as 01-Jul-94
14. Save your worksheet

TESTING DATES WITH THE @IF FUNCTION

The @IF function allows you to analyze one or more conditions in your worksheet and perform the specific functions based on the outcome of the analysis.

The format of the @IF function contains three elements: the *condition* performing the test, *then* what to do if the outcome is true, *else* what to do if the outcome is false. The following is an example of this format:



Commas are used to separate the three elements of the syntax, taking the place of the words "then" and "else." Spaces are not allowed, and either upper- or lowercase can be used.

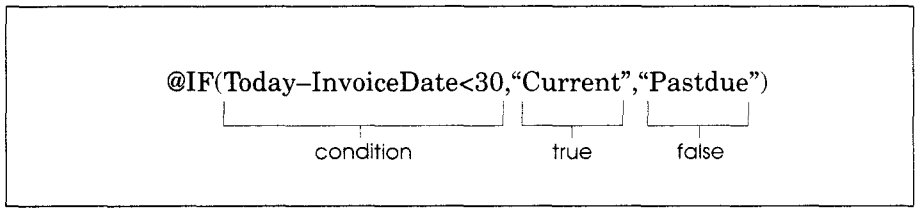
When entering an @IF statement, type the necessary text characters and point with the keyboard or mouse whenever referencing cell addresses.

The @IF function uses symbols to test for specific conditions. These symbols are called **operators.** Table 5.1 lists the six standard operators and their usage.

Table 5.1

OPERATOR	USAGE
>	Greater than
<	Less than
=	Equal to
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to

For example, when you create a spreadsheet to chart the aging of accounts receivable, the @IF function is used to test the difference between today's date and the invoice date. If the difference is less than 30 days, the invoice is still current (assuming those are your company's terms), otherwise it is past due.

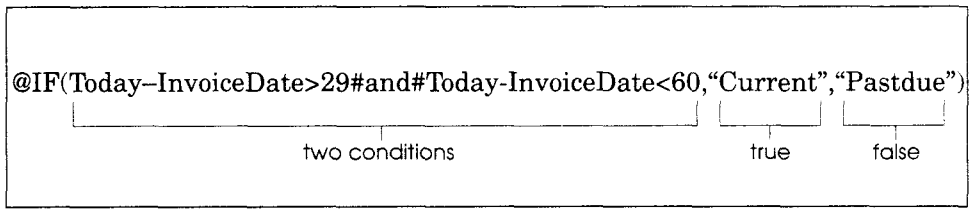


It is sometimes necessary to test for two or more conditions in the same formula. Table 5.2 lists the connecting words that can be used in @IF statements, called **logical operators**.

Table 5.2

LOGICAL OPERATOR	DESCRIPTION
#AND#	Tests two conditions; both conditions must be true
#OR#	Tests two conditions; either condition may be true
#NOT#	Tests that a condition is not true

For instance, you might need to test to determine if an invoice date falls between two dates, such as greater than 29 days and less than 60 days. For example,



An Accounts Receivable Aging is an accounting form that documents the breakdown of ages of receivables. On our spreadsheet each of the columns F through I will contain an @IF statement to test the age of each invoice. If the test is true, the value of the invoice amount is brought forward to the appropriate aging column. Therefore, only one of the four columns F through I can result in a "true" outcome. If the outcome of the test is false, a zero will display in the column.

In this exercise, you will create formulas using @IF and @NOW functions to perform the following IF tests:

Column F	Test if the invoice date is less than 30 days old
Column G	Test if the invoice date is greater than or equal to 30 days, but less than 60 days old
Column H	Test if the invoice date is greater than or equal to 60 days, but less than 90 days old
Column I	Test if the invoice date is greater than or equal to 90 days old

To enter the condition portion of the @IF function,

1. Move to cell F7
2. Type `@IF(@NOW-`

   CAUTION: Do not press Enter*; instead, point to the invoice date cell:*
3. Move to cell D7
4. Type `<30,`

   To enter the "do if true" portion of the function, point to the invoice amount cell:
5. Move to cell E7

   To enter the "do if false" portion of the function,
6. Type `,0`
7. Type `)`
8. Press Enter
9. Move to cell G7
10. Enter `@IF(@NOW-D7>=30#AND#@NOW-D7<60,E7,0)`
11. Press Enter
12. Move to cell H7
13. Enter `@IF(@NOW-D7>=60#AND#@NOW-D7<90,E7,0)`
14. Press Enter
15. Move to cell I7

16. Enter `@IF(@NOW-D7>=90,E7,0)`
17. Press Enter

    Use the copy command to duplicate this row of formulas down to the remaining rows of the spreadsheet:

18. Move to cell F7
19. Select /Copy
20. Press → 3 times (Copy What? F7..I7)
21. Press Enter
22. Move to cell F8
23. Press . (for the anchor)
24. Press ↓ 8 times (to where? F8..F16)
25. Press Enter

    The aging columns display the invoice amount only in the columns where the @IF statements are true, with zeros displayed in all others.

26. On your own, enter a repeating line of dashes in row 17, columns E through I
27. On your own, enter an @SUM formula in cell E18 to total E7..E17—including the row of dashes in case of future expansion
28. On your own, copy this @SUM formula from cell E18 to cells F18 through I18

    Compare your screen with that shown in Figure 5.3.

29. Be sure to save your worksheet

Figure 5.3

E18: @SUM(E17..E7) READY

	D	E	F	G	H	I	J
1							
2							
3							
4							
5							
6	INV. DATE	INV. AMT.	CURRENT	30 TO 60	60 TO 90	OVER 90	
7	02-Jun-94	99.00		99.00			
8	02-May-94	2,508.60			2,508.60		
9	15-Jan-94	920.15				920.15	
10	18-Mar-94	5,250.00				5,250.00	
11	01-May-94	450.75			450.75		
12	14-Feb-94	300.48				300.48	
13	03-Jun-94	2,600.45		2,600.45			
14	03-Jun-94	50.84		50.84			
15	20-Jun-94	145.17	145.17				
16	01-Jun-94	508.06		508.06			
17							
18		12,833.50	145.17	3,258.35	2,959.35	6,470.63	
19							
20							

07-Jul-94 10:35 AM UNDO

ELIMINATING THE DISPLAY OF ZEROS

Often you will want to eliminate the display of zeros to improve the readability of your worksheet. The /**W**orksheet **G**lobal **Z**ero command allows you to dictate whether zero values display or not. Since this option is located in the Global menu, this option always affects the entire worksheet.

Your Aging of Accounts Receivable worksheet offers a good example of why and when to use zero suppression. The zeros displayed in columns F through I in Figure 5.3 are a result of the @IF false outcome (which achieved the correct calculations for the totals on row 18) but they do not add to the clarity of the printed report.

CAUTION: The zero suppression function is not *saved with the file; therefore, you must repeat the /**W**orksheet **G**lobal **Z**ero **Y**es command each time you retrieve this file.*

In this exercise, you will instruct 1-2-3 to suppress the display of all zeros in your worksheet. Since this setting affects the entire worksheet, the position of the cell pointer is not a factor.

1. Select /**W**orksheet **G**lobal **Z**ero **Y**es
2. On your own, move to cell F16

   Notice on the control panel that the cell still contains the @IF formula even though the cell appears blank because of the zero suppression. In the event that changes in the worksheet cause the @IF statement in cell F16 to become true, the value will display.

PROTECTING WORKSHEETS

Lotus 1-2-3 has a global cell protection system that can be either enabled or disabled. When you begin to create a new worksheet, **global protection** is automatically disabled, thus allowing you to enter data in any cell in the worksheet. When global protection is enabled, data cannot be entered, deleted, or modified in any cell, and columns and rows cannot be inserted or deleted.

Since you have suppressed the display of zeros on the Accounts Receivable Aging spreadsheet, the formulas in columns F through I are invisible and it would be easy to make the mistake of typing over these cells, not knowing they were filled with a formula. Protecting a worksheet is especially valuable as a safeguard from destroying valuable formulas and entries when spreadsheets are shared by multiple users.

In this exercise, you will turn on global protection. Your cell pointer at the time may be located in any cell.

1. Select /**W**orksheet **G**lobal

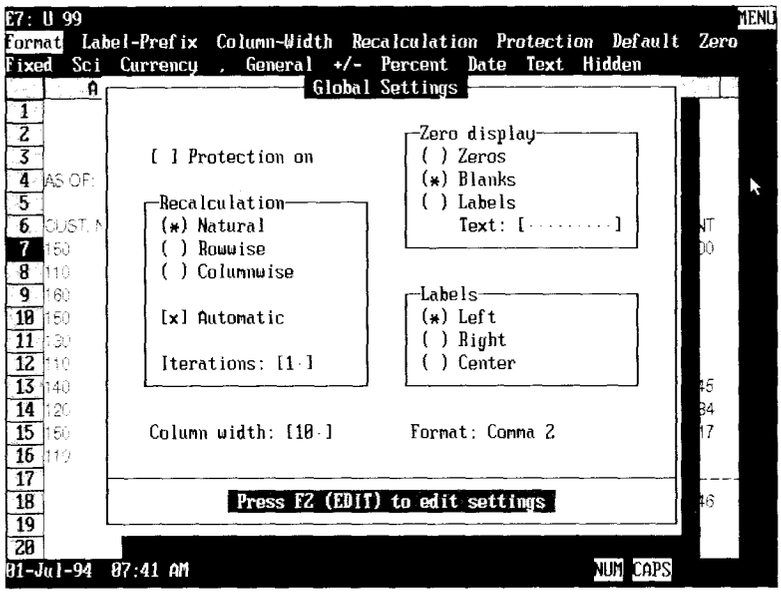
   The dialog box shown in Figure 5.4 appears, indicating that global protection is not on. If global protection were enabled, an X would appear to the left of the "Protection on" option.

2. Select **P**rotection **E**nable

   Your only visible indication on the screen that worksheet protection is enabled is the "PR" (protected range) code displayed in the control

panel following all cell addresses. Remember, global settings are only shown in the Worksheet Global Settings dialog box as shown in Figure 5.4.

Figure 5.4



3. On your own, move the cell pointer throughout your worksheet, noticing the "PR" coding

   To test the protection function,

4. Move to cell F7
5. Type `99`
6. Press Enter

   Attempting to enter data in a protected range has resulted in an error, indicated both in the mode indicator and in an error dialog box. To remove the dialog box and return to the READY mode,

7. Press Esc

Turning Off Protection in a Range

1 2 3

You can selectively unprotect specific ranges to allow users to make modifications in input areas, such as labels and value cells, while maintaining the protection of ranges containing formulas.

In this exercise you will unprotect the input areas on the Accounts Receivable Aging spreadsheet in columns A through E, from row 1 through 16.

1. Move to cell A1
2. Select /**R**ange **U**nprot

   The control panel prompts, "Enter range to unprotect: A1..A1." To specify columns A through E, from row 1 through 16,

3. Press → 4 times

4. Press ↓ 15 times

   The control panel prompts, "Enter range to unprotect: A1..E16." To finalize,

5. Press Enter

   The unprotected range will change color or intensity, depending upon the type of monitor you have attached to your computer. Also, the control panel displays a "U" (unprotected) code following the cell address.

6. On your own, move the cell pointer throughout your worksheet noticing the "U" coding

   To test the unprotection function,

7. Delete the value in cell E7
8. Type `99`
9. Press Enter

   The cell entry is accepted with no error.

Inserting and Deleting Columns and Rows in Protected Worksheets

1 2 3

A disadvantage to working in protected worksheets is that you are restricted from inserting or deleting columns or rows while protection is enabled. Therefore, protection must be disabled by using the /**W**orksheet **G**lobal **P**rotection Disable command in order to alter the perimeter of the worksheet.

In this exercise, you will temporarily disable the protection on the worksheet, so that you are able to insert a column, then reactivate the global protection.

Remember, when you use global commands, the cell pointer may be positioned anywhere in the worksheet.

1. Select /**W**orksheet **G**lobal

   Your screen displays the global settings dialog box; note that the "Protection on" box is marked with an X.

2. Select **P**rotection **D**isable
3. Move to cell **F6**

   Note that the "PR" code in the control panel is no longer displayed.

4. On your own insert one column between columns E and F

   The new column is inserted as column F and the "Current" column information is now located in column G.

5. Type `"DISCOUNT`
6. Press Enter
7. On your own, right-align the heading of column F

   Now, let's copy the lines and @SUM formula from cells E17 and E18 to cells F17 and F18.

8. Copy cells E17..E18 to cell F17
9. Be sure to save your worksheet

UNDERSTANDING ABSOLUTE AND MIXED CELL REFERENCING

You will remember that when you copied formulas in Lesson 3 the automatic adjustment of the cell addresses was called "relative" addressing. By contrast, **absolute referencing** means that the original cell address in the formula remains the same regardless of where it is copied.

The absolute symbol is the $ (dollar sign), and it is placed in front of each component of the formula that is to remain a constant. For example, if you referenced cell B1 as absolute, it would read "B1." The $ symbol can either be typed as the formula is created, using the $ on the keyboard, or inserted during the POINT mode by pressing the ABS key ([F4]).

Mixed referencing is a combination of relative and absolute references, required in certain situations. Thus, during a copy command the address will adjust in only one direction. For example, if you reference cell B1 as mixed, it would read either "$B1" (allows row to adjust, not column) or "B$1" (allows column to adjust, not row).

Table 5.3 gives some illustrations of the different usages of address types and the result after a copy command is issued.

Table 5.3

ORIGINAL FORMULA	TYPE	ACTION	RESULTING FORMULA
B1*C1	Relative	Copy 1 column to right	C1*D1
B1*C1	Absolute	Copy 1 column to right	C1*C1
B1*C$1	Mixed	Copy 1 column to right	C1*D$1
B1*C$1	Mixed	Copy 1 row down	B2*C$1
B1*$C1	Mixed	Copy 1 column to right	C1*$C1
B1*$C1	Mixed	Copy 1 row down	B2*$C2

[1][2][3] In the following exercise, you will create a formula to calculate a 3% discount for invoices paid within 30 days. The 3% discount factor is an example of a constant value that will be entered in one cell (F5) and used in the discount formula in cells F7 through F16. Therefore, you will need to reference cell F5 as absolute when creating the discount formula so that it remains constant during the copying process.

To enter .03 in cell F5 and format it as percent with zero decimals,

1. Move to cell F5
2. Type `.03`
3. Press [Enter]
4. Select /**R**ange **F**ormat **P**ercent **0**
5. Press [Enter] twice

To create the discount formula,

6. Move to cell F7
7. Press + (to begin the formula)
8. Press [←] (point to cell E7—Invoice Amount)
9. Press *

10. Press ↑ twice (point to cell F5—Discount Factor)

    The basic formula has been created, but before you press Enter to finalize this entry, and while you are still in POINT mode, cell F5 needs to have the absolute referencing added by doing the following:

11. Press F4

    The control panel prompts, "+E7*F5."

12. Press Enter

13. On your own, copy the formula from cell F7 to F8..F16

    Move to each cell in column F, noting in the control panel the different effects of the relative and absolute references when this formula is copied.

    To deduct the discount (column F) from the amount due in the "current" column (column E),

14. Move to G7

15. Press F2 (for Edit)

16. On your own, edit the formula to read, "@IF(@NOW-D7<30,E7-F7,0)"

17. Press Enter

18. On your own, copy cell G7 down to G8..G16

19. On your own, enable global protection

    Compare your screen with Figure 5.5.

20. Be sure to save your worksheet

Figure 5.5

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4	AS OF:	01-Jul-94								
5						3%				
6	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
7	150	Martha Thomas	B4578	02-Jun-94	99.00	2.97	96.03			
8	110	Raymond Appel	A3901	02-May-94	2,508.60	75.26			2,508.60	
9	160	Elaine Winter	E4040	15-Jan-94	920.15	27.60				920.15
10	150	Martha Thomas	N3069	18-Mar-94	5,250.00	157.50				5,250.00
11	130	Charles Garvin	C1114	01-May-94	450.75	13.52			450.75	
12	110	Raymond Appel	D1414	14-Feb-94	300.48	9.01				300.48
13	140	David Stone	E5050	03-Jun-94	2,600.45	78.01	2,522.44			
14	120	Sally Burton	A2020	03-Jun-94	50.84	1.53	49.31			
15	150	Martha Thomas	B5555	20-Jun-94	145.17	4.36	140.81			
16	110	Raymond Appel	A4902	01-Jun-94	508.06	15.24		508.06		
17										
18					12,833.50	385.01	2,808.60	508.06	2,959.35	6,470.63
19										

HIDING COLUMNS

One or more columns can be hidden in a worksheet by using the /**W**orksheet **C**olumn **H**ide command, thus allowing you to suppress the display or printing of unwanted columns. Even though the columns are not visible, the data and formulas are still present and continue to be used for calculation of the worksheet. The "hidden" status remains with the worksheet when it is saved.

1 2 3

In this exercise, you will hide the discount column.

1. Move to cell F1
2. Select /**W**orksheet **C**olumn **H**ide

   The control panel prompts, "Specify column to hide: F1." To hide column F,
3. Press Enter

   Notice that column F is no longer displayed and that the frame displaying the column letters skips column F.

   In the next step, you will perform a /**R**ange **E**rase command to demonstrate how hidden columns temporarily display during most range commands. Your cell pointer is positioned in cell G1.
4. Select /**R**ange **E**rase

   Notice that the column letters in the top frame now include column F, accompanied by an asterisk, indicating that this is a temporary view of a hidden column. As soon as the Range Erase command is completed, column F will no longer be displayed in the top frame.

   To complete the Range Erase command,
5. Press Enter

   To "unhide" or redisplay column F,
6. Select /**W**orksheet **C**olumn **D**isplay

   The control panel prompts, "Specify hidden columns to redisplay: G1." The prompt is indicating that the cell pointer is unanchored, thus allowing you to point to the hidden column:
7. Move to F1
8. Press Enter
9. Save the file and exit Lotus

SUMMARY OF COMMANDS

FUNCTION	KEYSTROKES/MENU
@NOW syntax	
@IF syntax	
Eliminate the display of zeros	
Enable worksheet protection	
Disable worksheet protection	
Align a range of labels	
Create an absolute symbol	
Hide columns	

SELF-TEST

5-1. Write an @IF statement that tests if cell A1 is greater than 0 (zero) and less than 10. If true, multiply cell A1 times cell B1, else 0.

5-2. List the operators that may be used when writing an @If function.

5-3. Explain the purpose of protecting a worksheet and give an example of when you might use this function.

5-4. Describe absolute referencing.

5-5. Write a formula multiplying cells D1 and E1, specifying E1 as an absolute address.

5-6. Write the resulting formula if you copied the formula in question 5-5 down one cell to cell D2.

APPLICATION PROBLEMS

5-1. Directions:

1. Create the Income Projection spreadsheet shown in Figure 5.6, entering the labels in column A and the values in column B. Also enter and right-align the labels in row 5.
2. Set the global format to Comma, 2 and the global width to 14. Set the column width for column A to 18.
3. Enter the label SALES FACTOR in cell D1 and the label EXPENSE FACTOR in cell D2.
4. Enter a Sales Factor of 1.1% in cell E1 and an Expense Factor of 1.05% in cell E2, then range format cells E1 and E2 to Percent, 2.
5. Move to cell C7 and create a formula to calculate February's sales using January's sales, multiplied by a projected increase factor of 110%, making the reference to cell E1 absolute. The result should appear as "$638,000.00." Copy the formula in cell C7 to D7..M7. Copy the dashed line to cells C8..M8.
6. Move to cell C9 and create a formula to calculate February's salaries using January's salary figures, multiplied by a projected increase of 105% in cell E2, making cell E2 an absolute reference. The result should appear as "$347,025.00." Copy the formula in

cell C9 to C9..M15. This should be accomplished in one copy command.

7. Move to cell B17 and, using the @SUM function, sum cells B8 through B16. Move to cell B19 and create a formula that subtracts the total expenses from the sales.
8. Move to cell B16 and copy B16..B19 to C16..M16.
9. Save the file on drive A: and name it INCM_PRJ. Print the file.

Figure 5.6

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	General Dry Goods, Inc.			SALES FACTOR:									
2	INCOME PROJECTION			EXP. FACTOR:									
3	Year End 1997												
4													
5		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6													
7	Sales	580000											
8													
9	Salaries	330500											
10	Travel	43000											
11	Advertising	125000											
12	Entertainment	21000											
13	Dues	4523.49											
14	Office Supplies	13567.65											
15	Postage	6850.2											
16													
17	Total Expenses												
18													
19	Profit												

5-2. Prepare the spreadsheet shown in Figure 5.7 to record office supplies on hand, the minimum amount required, the difference between stock on hand and minimum, and a column listing Yes or No for ordering.

You will review the formulas and functions of @SUM, @IF, and zero suppression in this exercise.

1. Set the global width to 15.
2. Enter the labels in rows 1 through 8.
3. Right-align the headings over value columns (A, B, and C).
4. Center headings in column D.
5. Enter the values in columns A and B.
6. Enter an @IF formula in cell C9 as follows:

   @IF(A9<B9,A9-B9,0)

   This formula tests to see if cell A9 is less than cell B9. If YES, then it calculates cell A9 minus cell B9, or ELSE it places a zero in the cell.
7. Copy the formula in cell C9 to C10..C14.
8. Enter another @IF formula in cell D9 as follows:

   @IF(C9<0," YES"," NO")

This formula tests to see if cell C9 is less than zero. If YES, then it places "YES" in column D (with a few leading spaces to center the label YES), or ELSE it places "NO" in column D (again with a few leading spaces).

9. Copy the formula in cell D9 to D10..D14.
10. Save the file as STOCK.WK1.
11. Print with WYSIWYG (use some enhancements if desired).

Figure 5.7

	A	B	C	D
1	A A ENTERPRISES			
2	OFFICE SUPPLY STATUS REPORT			
3	July 1, 1994			
4				
5				
6	STOCK	MINIMUM	LESS THAN	NEED TO
7	ON HAND	QUANTITY	MINIMUM	ORDER?
8				
9	75	80	-5	YES
10	25	80	-55	YES
11	150	80	0	NO
12	67	100	-33	YES
13	200	100	0	NO
14	4	12	-8	YES

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LOTUS 2.3 LOTUS 2.4
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LESSON

6

ANALYZING ACCOUNTS RECEIVABLE WITH LOTUS GRAPHS

OBJECTIVES

At the end of this lesson, you will be able to

- Create a bar graph
- Add graph options
- Add titles
- Add legends
- Add grid lines
- Change a bar graph to a pie chart
- Change a pie chart to a line graph
- Name graph settings
- Save a graph image file
- Print graphs with WYSIWYG

CASE STUDY

Managing cash flow is a vital part of a successful company and its status must be tracked frequently. Because of the volume of information shown on most spreadsheet printouts, it is difficult to grasp the "big picture"; therefore, visually representing the data in the form of graphs or charts assists personnel in evaluating numbers from the spreadsheets. Graphs on the Aged Accounts Receivable worksheet become an effective tool for analyzing data to make wise business decisions.

When VP Computers, Inc. was formed, a business plan was developed with reasonable estimates established for outstanding accounts receivable. Now, after the first six months in business, the owners need to evaluate their credit policies and have asked you, as their accountant, to prepare presentation graphs that enable them visually to compare the actual figures with the estimates.

STARTING POINT

Before beginning this lesson, while at the DOS prompt, set the computer date to 07-01-94. Then start Lotus 1-2-3 and retrieve the Aged Accounts Receivable worksheet called AGED-AR.WK1.

Lotus 1-2-3 graphics are created from values in a spreadsheet. You will need to prepare the worksheet for this lesson by entering the data for the "estimated" accounts receivable in row 19 so that these estimates can be

compared with the actual status of current accounts receivable in the form of a graph.

1 2 3 In this exercise, you will enter the estimated accounts receivable data in the protected areas of the worksheet, so the first step is to turn off global protection:

1. Select /**W**orksheet **G**lobal **P**rotection **D**isable

   To suppress zero display,

2. Select /**W**orksheet **G**lobal **Z**ero **Y**es
3. Compare your screen with Figure 6.1 as you enter the following headings in cells A1 and A2:

   Cell A1 `VP COMPUTERS, INC.`

   Cell A2 `AGED ACCOUNTS RECEIVABLE`

4. If you have access to WYSIWYG on your computer, align the headings to center across columns A through J

   To summarize the total accounts receivable on row 18, enter the following labels in column A.

5. Move to cell A18
6. Type `Actual`
7. Press ↓
8. Type `Estimated`
9. Press Enter
10. Enter the following estimated values in row 19:

    Cell G19 `4000`

    Cell H19 `3000`

    Cell I19 `2000`

    Cell J19 `1000`

Figure 6.1

VP COMPUTERS, INC.
AGED ACCOUNTS RECEIVABLE

AS OF: 01-Jul-94

CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	3% DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
150	Martha Thomas	B4578	02-Jun-94	99.00	2.97	96.03			
110	Raymond Appel	A3901	02-May-94	2,508.60	75.26			2,508.60	
160	Elaine Winter	E4040	15-Jan-94	920.15	27.60				920.15
150	Martha Thomas	N3069	18-Mar-94	5,250.00	157.50				5,250.00
130	Charles Garvin	C1114	01-May-94	450.75	13.52			450.75	
110	Raymond Appel	D1414	14-Feb-94	300.48	9.01				300.48
140	David Stone	E5050	03-Jun-94	2,600.45	78.01	2,522.44			
120	Sally Burton	A2020	03-Jun-94	50.84	1.53	49.31			
150	Martha Thomas	B5555	20-Jun-94	145.17	4.36	140.81			
110	Raymond Appel	A4902	01-Jun-94	508.06	15.24		508.06		
Actual				12,833.50	385.01	2,808.60	508.06	2,959.35	6,470.63
Estimated						4,000.00	3,000.00	2,000.00	1,000.00

Creating a Bar Graph

Of the seven main types of graphs available in 1-2-3, a bar graph is very effective in showing the comparison of numbers since it is easy to read and can contain many labels describing the components of the graph.

You create a graph in three basic steps: decide which type of graph best visually represents the data, instruct 1-2-3 which data to place in the graph, and, finally, tell 1-2-3 to display the graph.

There are some key terms that you should be familiar with before beginning to create a graph.

Data Range

A **data range** defines a range of values in the worksheet. Lotus 1-2-3 graphs are capable of displaying up to six sets of data ranges identified by letters A through F, depending upon the type of graph selected. For example, when you create a bar graph, each data range specified adds another set of bars to the graph.

X-Axis

The **X-axis** is the horizontal bottom edge of a graph. Increments between the minimum and maximum values are indicated with tick marks.

Y-Axis

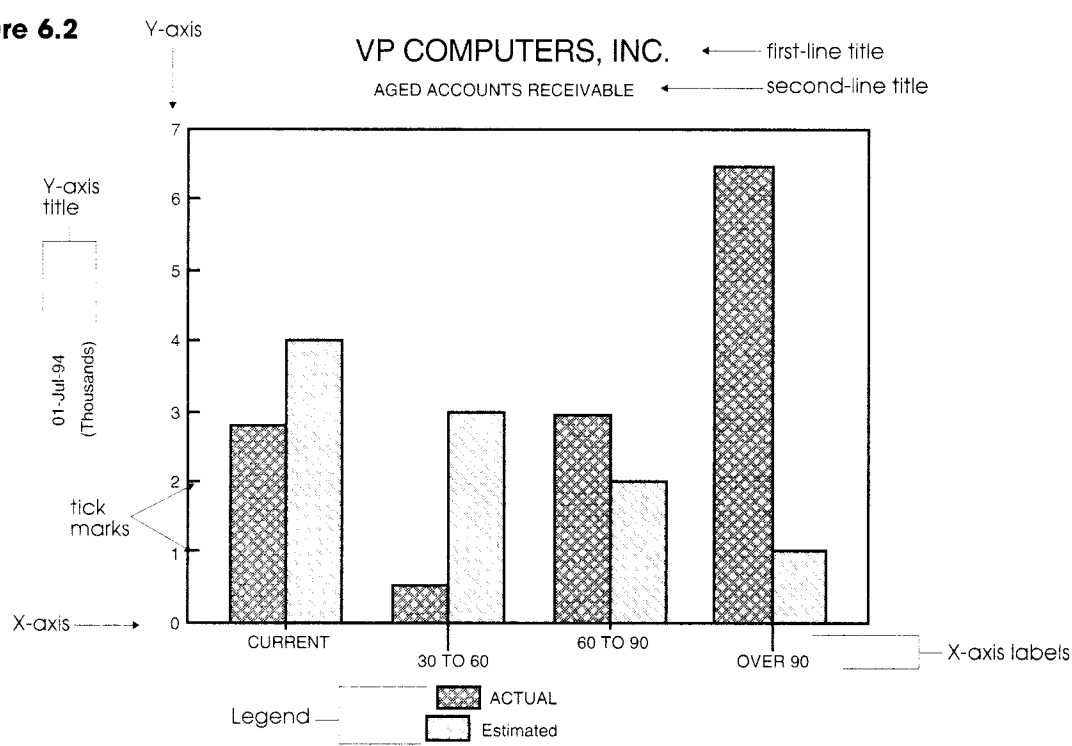
The **Y-axis** is the vertical left edge of a graph. It is used to measure the relative size of each value within a data series. Tick marks represent the increments between the minimum and maximum values.

Legend

If more than one data series is chosen, you can describe each series with an explanatory **legend** at the bottom of the graph.

Figure 6.2 shows the various components of a graph:

Figure 6.2



1 2 3 In this exercise, you will begin creating the bar graph by defining the "type" of graph.

1. Select /**G**raph **T**ype

   The control panel displays the seven choices for types of graphs, and the Graph Settings dialog box indicates that the "Line" type is currently marked.

2. Select **B**ar

   Notice that the asterisk in the "Type" portion of the dialog box now marks "Bar."

   Now, to define the "actual" accounts receivable values as the first data range in the bar graph,

3. Select **A**

   Lotus 1-2-3 will take you back to the worksheet screen. The mode indicator is in the POINT mode so that you can define a range.

4. Move to cell G18

   The control panel prompts, "Enter first data range: G18."

5. Press . (period for anchor)

   To shade the range G18..J18,

6. Press → 3 times

   The control panel prompts, "Enter first data range: G18..J18."
   To finalize,

7. Press Enter

   The Graph Settings dialog box now displays the A range as G18..J18.

   To view the image that you have created,

8. Select **V**iew

   Lotus 1-2-3 has generated a bar graph and automatically established the Y-axis along the left side of the graph, including the word "(Thousands)," based on the numeric values in the spreadsheet. Compare your image with that shown in Figure 6.3.

   To exit View,

9. Press Esc

   The next step is to add descriptive labels along the bottom of the graph, called the **X-range**. The X-range is defined by highlighting cells in the worksheet:

10. Select **X**

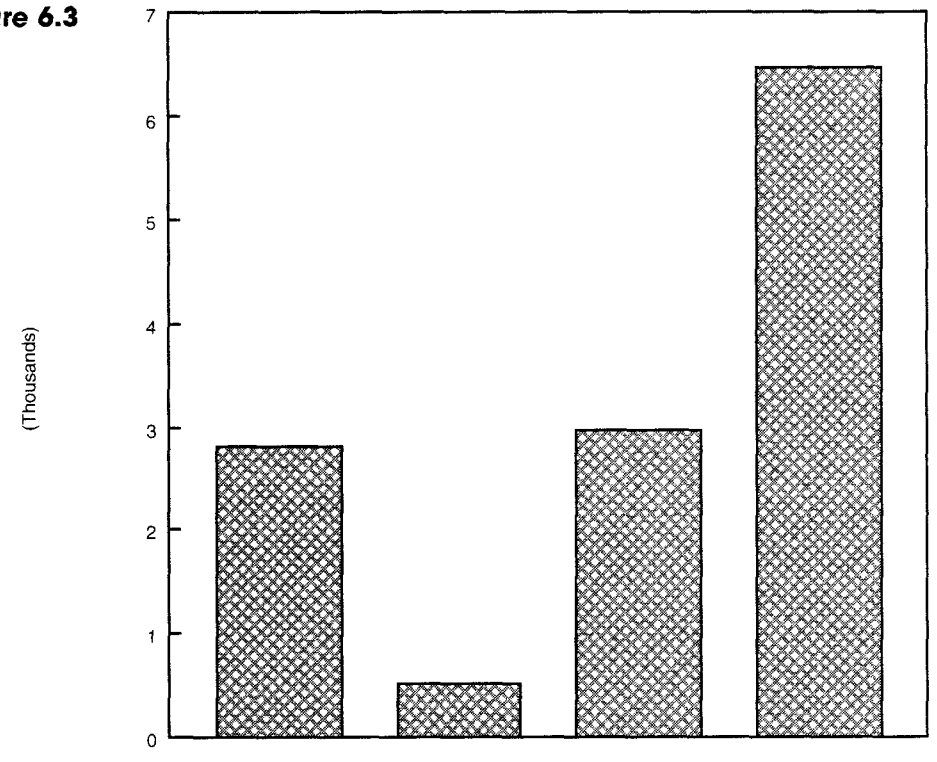
11. Move to cell G6

12. On your own, anchor and shade from cell G6 through J6

13. Press Enter

    The address G6..J6 is now displayed for the X-range in the Graph Settings dialog box.

Figure 6.3



To view the graph,

14. Select **V**iew

Lotus 1-2-3 has placed the words "Current," "30 to 60," and so forth along the bottom of the graph, greatly improving the clarity of the graph.

To exit View,

15. Press Esc

To define the "estimated" accounts receivable values as the second range to plot (the B range),

16. Select **B**

17. On your own, shade the range G19..J19

18. Press Enter

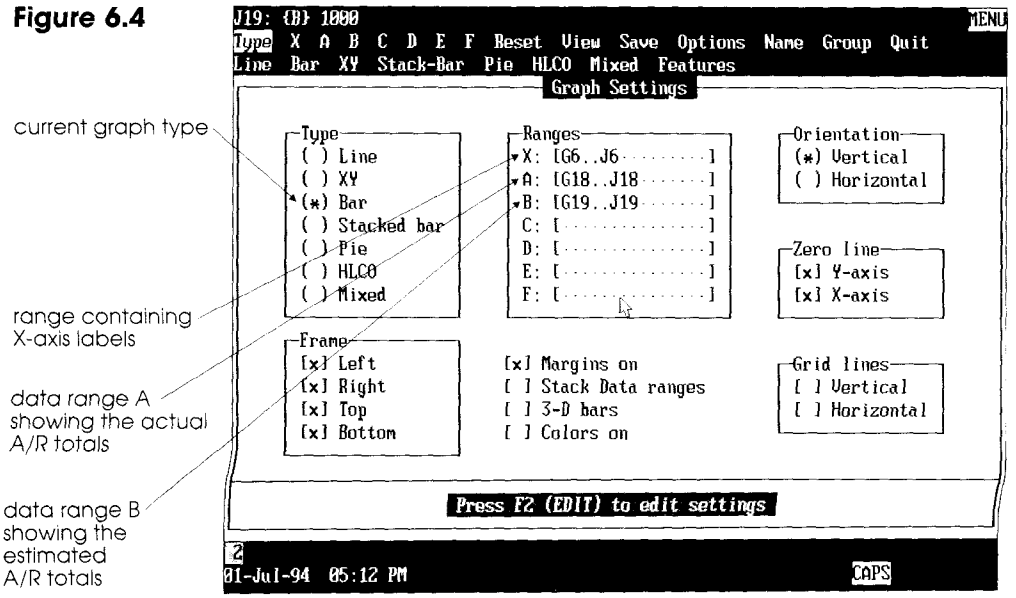
Compare your dialog box with that shown in Figure 6.4 to make sure that the necessary ingredients for this graph are set as follows:

TYPE	BAR
A range	G18..J18
B range	G19..J19

To view the graph,

19. Select **V**iew

Figure 6.4



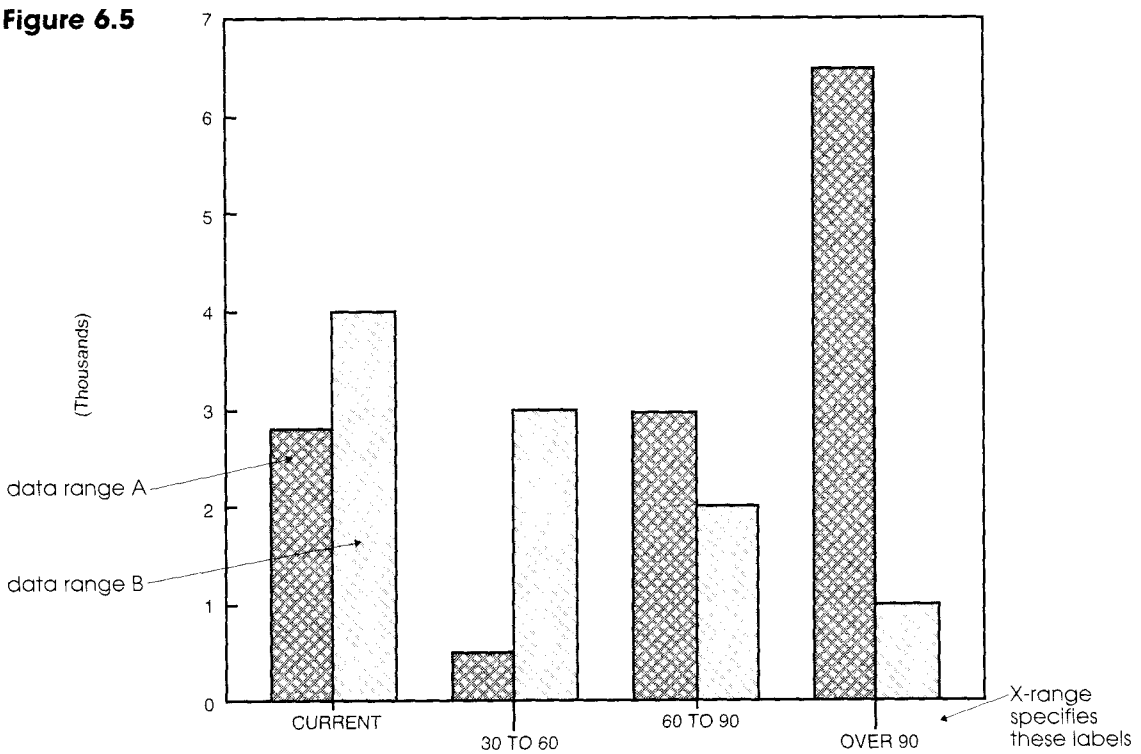
As illustrated in Figure 6.5, 1-2-3 has added the estimated amounts as a second bar of data, shown with a different design of hatch pattern in each of the four categories.

To exit View,

20. Press Esc

21. Select **Q**uit to return to the READY mode

Figure 6.5



ADDING GRAPH OPTIONS

The graph created above does a good job of representing the values from the spreadsheet, but labels that are even more descriptive can be added for further explanations on the outside of the graph frame. These enhancements are found in the /**G**raph **O**ptions menu.

Adding Graph Titles

Graph titles in the Graph menu are additional text headings on the outside of the graph frame. One or two titles can be placed at the top of the graph, plus a title printed vertically to the left of the Y-axis and a title printed horizontally under the X-axis.

1 2 3

In this exercise, you will add headings at the top of the graph, called titles.

To move to the Options menu,

1. Select /**G**raph **O**ptions **T**itles

   A dialog box named "Graph Legends & Titles" appears, showing all areas for labels currently empty.

   The control panel prompts, "First Second X-Axis Y-Axis," showing the four locations where titles can be added.

2. Select **F**irst

   The control panel prompts, "Enter first line of graph title." To enter the text for the title,

3. Type `VP COMPUTERS, INC.`
4. Press Enter

   The menu takes you back to the option "Titles." To add the second row of titles,

5. Select **T**itles **S**econd

   This time, instead of typing the text for the title, use the backslash (\ ) key followed by a cell address, for example `\A2`, to "tie" the title to a label already entered in a cell in the spreadsheet. The advantages to this method are that it is easier and more accurate than typing the text a second time; the typing method has a maximum of 39 characters and the cell tie does not; and, finally, since the title is permanently tied to the cell, the title always reacts to changes made in the spreadsheet.

6. Type `\A2`
7. Press Enter
8. Select **T**itles **Y**-**A**xis
9. Type `\B4`
10. Press Enter
11. Select **Q**uit
12. Select **V**iew
13. Press Esc
14. Select **Q**uit

Adding Legends

A legend is similar to the legend on a map, using symbols as a key to describe what each part of the graph represents. The legend in 1-2-3 graphs is always displayed at the bottom of the graph and can be assigned either by typing the text for the description or by tying to a cell as in the Titles command used above.

1 2 3 In this exercise, you will add legends at the bottom of the graph, showing which pattern of hatching represents which range in the spreadsheet.

To add the first legend,

1. Select /**G**raph **O**ptions **L**egend **A**

   The control panel prompts, "Enter legend for first data range." To practice the typing method,

2. Type `ACTUAL`
3. Press Enter

   To add the second legend,

4. Select **L**egend **B**

   To use the cell tie method,

5. Type `\A19`
6. Press Enter

   To verify your Legend and Titles settings,

7. Select **L**egend

   Compare your dialog box with that shown in Figure 6.6.

   To exit to the main Graph menu and view the results,

8. Press Esc twice
9. Select **V**iew

   Compare your graph with that shown in Figure 6.7.

Figure 6.6

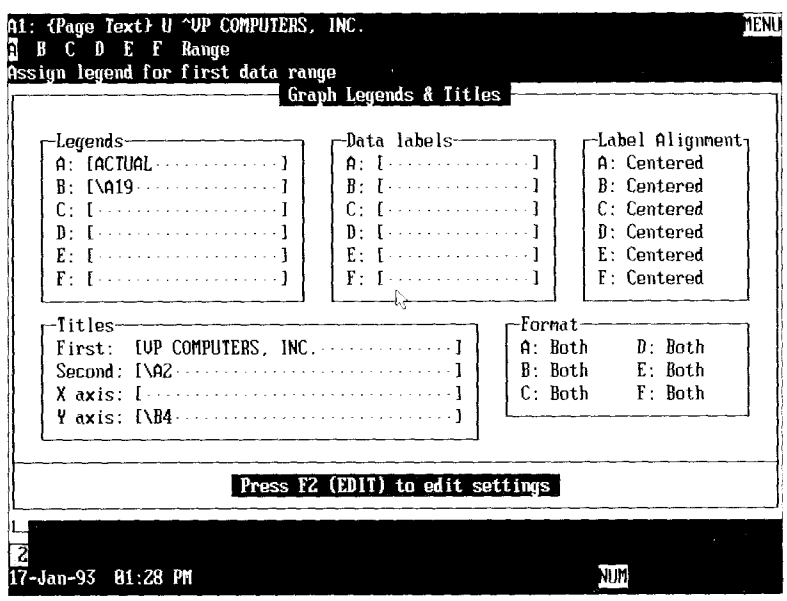
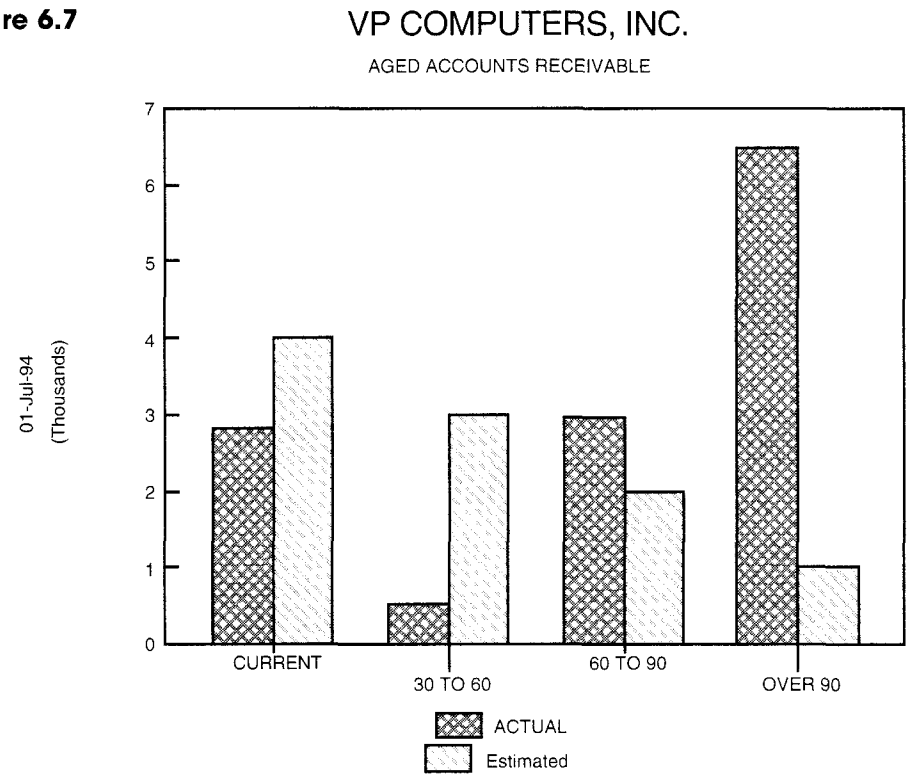


Figure 6.7



To exit to the READY mode,

10. Press Esc
11. Select **Q**uit

Adding Grid Lines

Horizontal and vertical **grid lines** can be added to the graph to add clarity.

1 2 3

In this exercise, you will add a horizontal grid to make the Y-axis easier to read.

To apply horizontal lines to your bar graph,

1. Select /**G**raph **O**ptions **G**rid **H**orizontal **Q**uit

To view the graph,

2. Select **V**iew

To exit to the READY mode,

3. Press Esc
4. Select **Q**uit

Changing a Bar Graph to a Pie Chart

The bar graph can be easily switched to a pie chart by changing the type of graph from the main Graph menu. The current ranges and titles will not need to be altered.

A pie chart uses only the A-range for values in the graph and uses the B-range to control the patterns of the pieces of the pie. Therefore, a pie

chart looks at the A-range as a whole, divided into percentages for each of the cells in the A-range.

1 2 3 In this exercise, you will change your bar graph to a pie chart.

To change the type to pie,

1. Select /**G**raph **T**ype **P**ie

   The "pie" option is marked in the "Type" section of the dialog box.
   To view,

2. Select **V**iew

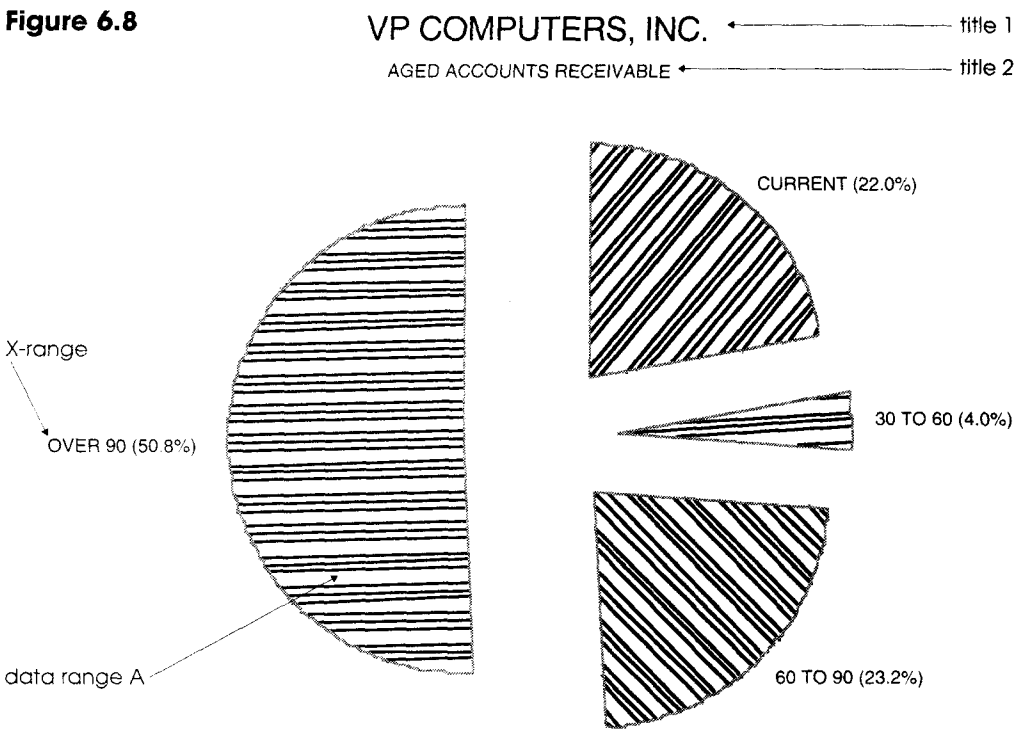
   Compare your graph to the one shown in Figure 6.8.

   To exit to the READY mode,

3. Press Esc

4. Press **Q**uit

Figure 6.8



CHANGING A PIE CHART TO A LINE GRAPH

The pie chart can easily be changed to a line graph using the same data ranges and graph settings. The Type option in the main Graph menu can be changed from pie to line.

1 2 3 In this exercise, you will change the pie chart to a line graph and then back to a pie chart.

To change the type to line,

1. Select /**G**raph **T**ype **L**ine

The "Line" option is marked in the "Type" section of the dialog box. To view,

2. Select **V**iew

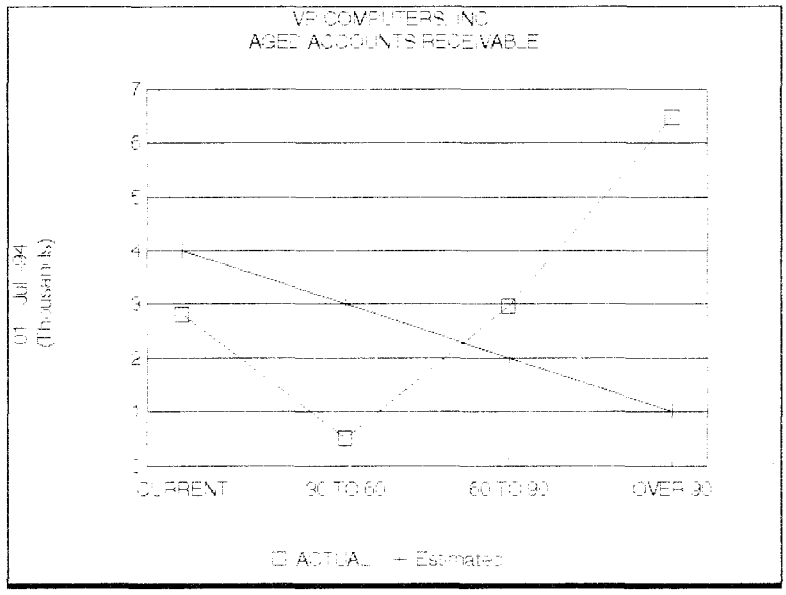
   Compare your graph to the one shown in Figure 6.9.

3. To exit, press Esc

   To reset the graph type to pie,

4. Select /**G**raph **T**ype **P**ie
5. On your own, view the pie chart
6. Press **Q**uit

Figure 6.9



NAMING GRAPH SETTINGS

The pie chart that you have created is called the "current" graph, since when you select **V**iew, you see that the pie chart and its settings are currently in memory. You must name the pie chart to store its settings before you begin to create another graph from the same spreadsheet. Therefore, by naming graph settings you can create an unlimited number of graphs from the same spreadsheet, all of which can be recalled at a later date. You can view any of the previously created graphs by selecting from a list of named graphs.

1 2 3

In this exercise, you will name the pie chart, then change the settings back to a bar graph and name the bar. Then you will be able to easily switch between the two named settings.

To name the pie chart,

1. Select /**G**raph **N**ame **C**reate

   The control panel prompts, "Enter graph name." To enter the graph name (up to 15 characters),

2. Type `PIE-AR`
3. Press Enter

   The name is not displayed on the dialog box or anywhere on the screen but is coded into the settings.

   To change the type of graph back to bar and assign BAR-AR as the graph name,
4. Select **T**ype **B**ar

   The "Bar" option is marked in the "Type" section of the dialog box. To view,
5. Select **V**iew

   To exit View,
6. Press Esc
7. Select **N**ame **C**reate

   The control panel prompts, "Enter graph name" and the name of the existing named graph PIE-AR is shown. To create BAR-AR as the second named graph on this spreadsheet,
8. Type `BAR-AR`
9. Press Enter

   To switch between the two named settings,
10. Select **N**ame **U**se

    Both graph names are shown, in alphabetical order.

    Highlight PIE-AR to make its settings the current graph:
11. Press →
12. Press Enter

    The pie chart is now the current graph and the image is shown on the screen. To switch to the bar graph,
13. Press Esc
14. Select **N**ame **U**se

    BAR-AR is already highlighted. To select it,
15. Press Enter

    To return to READY mode,
16. Press Esc 3 times

    Save the worksheet file (AGED-AR.WK1) to make sure that the named graph settings are safe.
17. Select /**F**ile **S**ave Enter **R**eplace

SAVING A GRAPH IMAGE FILE

Graph images are saved for printing or to allow them to be imported into another software package, such as WordPerfect or Harvard Graphics. Lotus 1-2-3 allows you to assign any eight-character name to the graph file and will automatically attach the extension of .PIC, meaning "picture."

1 2 3 In this exercise, you will make one of your named graphs current and save it.

1. Select /**G**raph **N**ame **U**se
2. Highlight **PIE-AR**
3. Press Enter
4. Press Esc
5. Select **S**ave

   The control panel prompts something like the following, depending on your default directory and the release of 1-2-3 you are using on your computer:

   "Enter graph file name: C:\123r24*.pic."

   Enter PIE-AR for the file name for the graph image file. Remember, "saving" creates a separate file on disk, and therefore will not conflict with the name used for "named" settings.

6. Type `PIE-AR`
7. Press Enter
8. On your own, make the BAR-AR named setting current and save the image as BAR-AR.PIC
9. On your own, return to the READY mode

PRINTING GRAPHS WITH WYSIWYG

Graphs are best presented when they can be printed on the same page with the spreadsheet. The WYSIWYG print menu allows for graphs to be added to the spreadsheet and printed together.

The following required steps have already been completed:

- Numbers entered into the spreadsheet
- Graphs created with /**G**raph
- Graphs named with /**G**raph **N**ame **C**reate or graphs saved with /**G**raph **S**ave
- Worksheet file saved with /**F**ile **S**ave
- WYSIWYG attached (see Lesson 4 if WYSIWYG is not currently attached)

NOTE: Skip this section if your computer does not support WYSIWYG.

Adding a Graph to a Worksheet

In this exercise, you will add the named graph BAR_AR to the worksheet.

1. Move to cell B25
2. Select **:G**raph **A**dd

   The control panel lists the three types of graphs that can be added:

   Current The image currently in memory, *or*

   Named One of the named settings you have created, *or*

   PIC One of the saved images you created on disk

3. Select **N**amed

   The control panel prompts, "Select a named graph" and displays the list of named graphs in alphabetical order. To select BAR-AR,

4. Press Enter

   The control panel prompts, "Enter the graphic display range: B25."

   CAUTION: Do not press Enter *or you will have a tiny bar graph displayed in only one cell.*

   To expand the range for the graph to display,

5. Press . (period) and highlight B25..H35

6. Press Enter

   The bar graph displays beginning in cell B25, and in the control panel following the cell address the name of the added graph is indicated as "B25: {Graph BAR-AR}."

7. Select **Q**uit

8. Move the cell pointer down to view the bar graph displayed in cells B25..H35

Printing Graphs and Spreadsheets

Now that the named graph is displayed with the spreadsheet, they can both be printed in the same print job. However, you need to extend the print range to include the embedded graph (A1..J35).

1 2 3

In this exercise, you will extend the print range, preview the job, and print the page.

1. Select **:P**rint **R**ange **S**et
2. To extend the print range over the embedded graph, use the directional arrow keys to highlight cells A1 through J35
3. Press Enter
4. On your own, set the Compression to automatic and the Orientation to landscape
5. Select **P**review

   As shown in Figure 6.10, the spreadsheet and the bar graph will print on a one-page report. Notice that the print is automatically compressed to fit the entire range and graph on one page.

   To exit Preview,

6. Press Esc

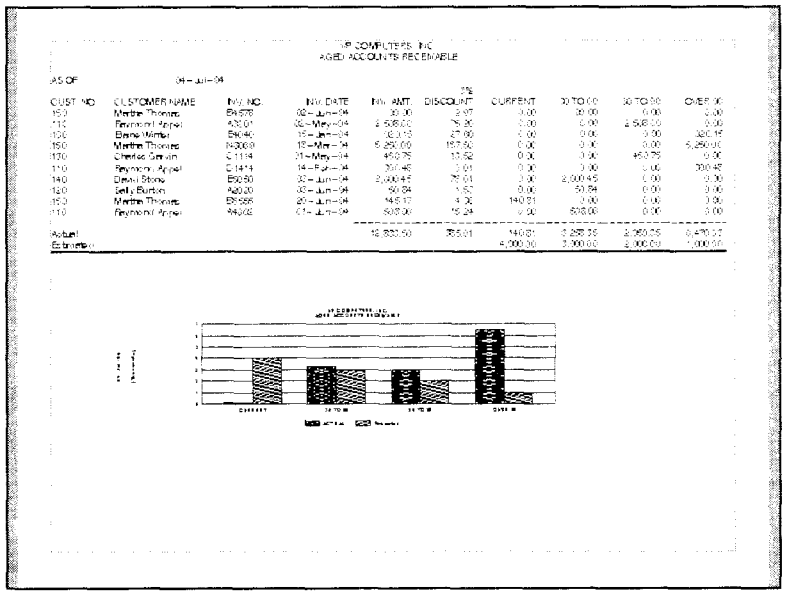
   To start printing and quit this menu,

7. Select **G**o **Q**uit

Removing Graphs from Spreadsheets

You have created and named two graphs that show the relationships in the Aged Accounts Receivable spreadsheet. If you would also like to print the spreadsheet accompanied by the pie chart, you must first remove the bar graph.

Figure 6.10



1 2 3 In this exercise, you will remove BAR-AR and add PIE-AR. Then, you will preview the job and print the page.

1. Move to cell B25
2. Select **:Graph Remove**

   The control panel prompts, "Select the graphics to remove: B25." To remove this graphic, your cell pointer may be located in any cell where the graph displays. To accept cell B25,
3. Press Enter

   The graph is removed from the spreadsheet (but the named graph is still stored for later use).
4. On your own, add the named pie chart, PIE-AR, in cell B25
5. On your own, print the spreadsheet with the pie chart

SUMMARY OF COMMANDS

FUNCTION	KEYSTROKES/MENU
Create a graph	
View a graph	
Add graph titles	
Add legends	
Change a bar graph to a pie chart	
Name a graph	
Save a graph image	
Add a graph to a worksheet	
Print a graph and its worksheet	
Remove a graph from a worksheet	

SELF-TEST

6-1. Describe a data range and tell how many are available when creating a graph.

6-2. What is the purpose of the X-range?

6-3. How many titles can be added to the top of a graph? Can additional titles be added? If so, where are they located and how are they referenced?

6-4. Describe a legend.

6-5. What are the A range and B range used for in a pie chart?

6-6. What is the purpose of the **G**raph **N**ame command?

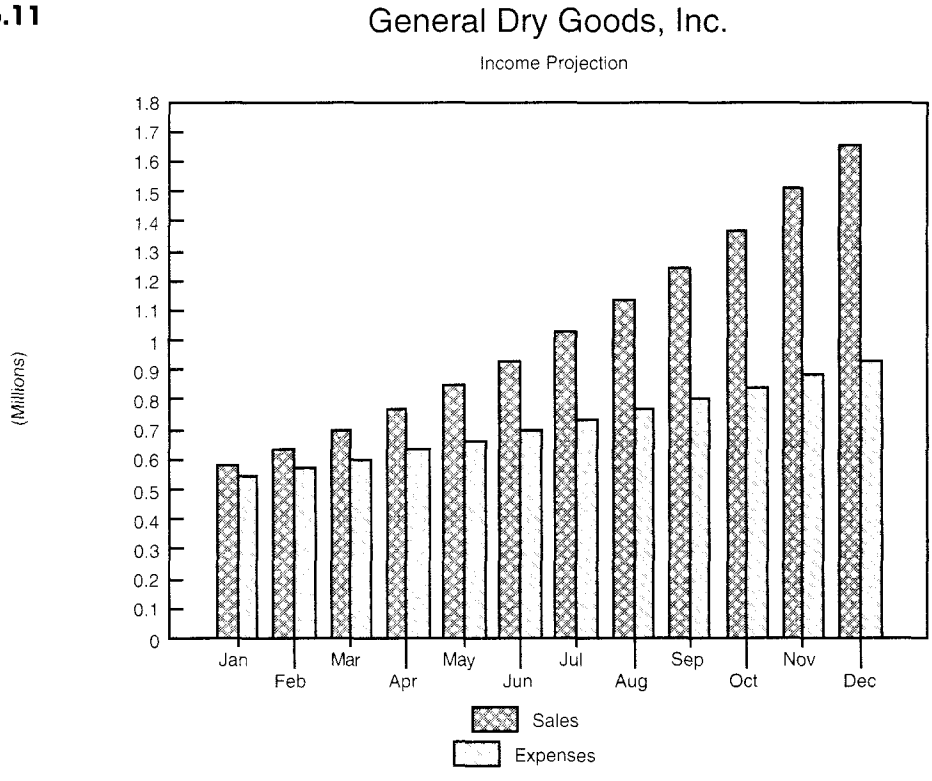
APPLICATION PROBLEMS

6-1. Directions:

1. Retrieve the INCM_PRJ spreadsheet (you created it in Application Problem 5-1 in Lesson 5), and create a bar graph. Define the X-range as B5..M5, the data range A as B7..M7, and the data range B as B17..M17.
2. Specify Legend A as Sales and Legend B as Expenses, then stipulate the first title as "General Dry Goods, Inc." and the second title as "Income Projection."
3. View your bar graph.

   Compare your graph to the one shown in Figure 6.11.
4. Save the worksheet and exit 1-2-3.

Figure 6.11



6-2. Directions:

1. Change the bar graph you created in the first assignment into a line graph.
2. View the graph.
3. Name and save the graph.
4. If you have WYSIWYG on your computer, use WYSIWYG to "add" the graph to (embed it in) a range in the spreadsheet. Then print the spreadsheet, including the graph range.
5. Save the spreadsheet file.

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LESSON 7

USING LOTUS DATABASE TO MANAGE MERCHANDISE INVENTORY

OBJECTIVES

At the end of this lesson, you will be able to

- Define a database
- Build a 1-2-3 database
- Use the Data Sort command to rearrange the rows in a worksheet
- Filter records with the Query command

CASE STUDY

An itemized list showing the value of goods on hand is called an **inventory**. If this inventory is the value of goods for sale to customers, it is called **merchandise inventory**.

VP Computers, Inc. maintains a large inventory of computer hardware, such as computers, printers, cables, disks, and so forth. As the accountant, you have been asked to keep a spreadsheet with a complete inventory list and to be ready to supply management with reports on a regular basis.

Management has asked you to prepare a listing of current inventory that will calculate the sales price of each item by multiplying the quantity times the unit price. Also, the inventory list needs to be set up so that these reports can be sorted, making it easier to locate items or check for duplication. For example, the owners may request a printed list in alphabetical order by vendor, and the next day request another printout in order of date received. These lists and sorting functions are typically called **"database"** applications.

STARTING POINT

Before beginning this lesson, start Lotus 1-2-3 and make sure that you have a blank worksheet on the screen.

WHAT IS A DATABASE?

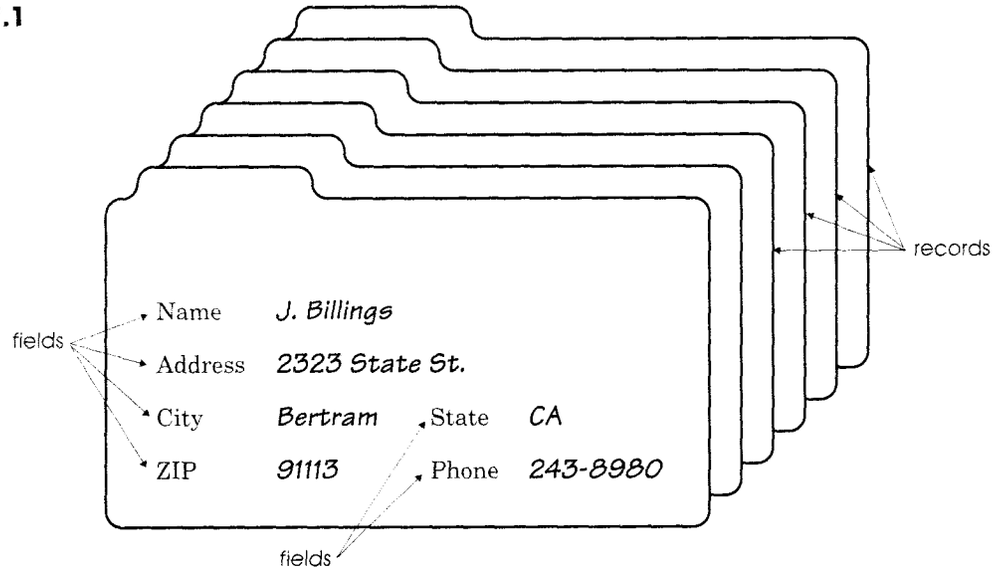
A database is an organized collection of related data. An example of a database application is a card file or Rolodex in which each card contains similar information kept in structured categories, such as name, address, phone number, and the like.

A database is composed of two components:

Fields	The categories of data maintained (name, address, and so on)
Records	One entry each of data, containing fields (one index card)

Figure 7.1 illustrates a database in the form of a card file, where each card is a record and each item on it is a field.

Figure 7.1



BUILDING A 1-2-3 DATABASE

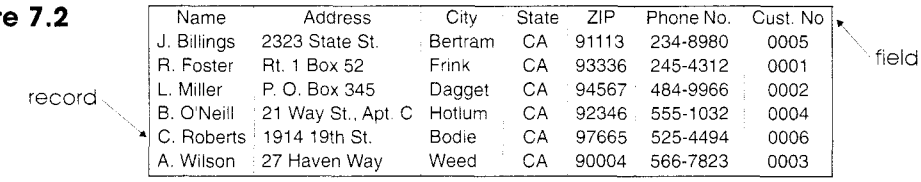
A 1-2-3 database is a worksheet file that has compact columns and rows that make up the **records** and **fields** as described below:

Record	Each row on the spreadsheet is a record, containing all the information about an item (as on an index card).
Fields	Each column of the spreadsheet is a field that identifies the different categories of information in each record.

Figure 7.2 illustrates a database in the form of a spreadsheet, where each row is a record and each column is a field.

All the known characteristics of 1-2-3 still apply. Therefore, the cells can be either input or calculated, the columns can be totaled, graphs can be generated from the values of the spreadsheet, and printouts can be made as usual.

Figure 7.2



Name	Address	City	State	ZIP	Phone No.	Cust. No
J. Billings	2323 State St.	Bertram	CA	91113	234-8980	0005
R. Foster	Rt. 1 Box 52	Frink	CA	93336	245-4312	0001
L. Miller	P. O. Box 345	Dagget	CA	94567	484-9966	0002
B. O'Neill	21 Way St., Apt. C	Hotlum	CA	92346	555-1032	0004
C. Roberts	1914 19th St.	Bodie	CA	97665	525-4494	0006
A. Wilson	27 Haven Way	Weed	CA	90004	566-7823	0003

A 1-2-3 database spreadsheet can accomplish three typical database tasks on the information in a spreadsheet: sort, find, and extract. Each will be explored in this lesson.

In this exercise, you will build a spreadsheet to log inventory. You will be constructing this spreadsheet using concepts learned in previous lessons.

The columns represent fields, organized by category, ITEM NO., ITEM NAME, TYPE, VENDOR, and so on. The rows represent records, containing all the information about each item of inventory.

For your reference, shown in Figure 7.3 is the Inventory Control spreadsheet that you will complete in this lesson.

Figure 7.3

	A	B	C	D	E	F	G	H
1	VP COMPUTERS, INC.							
2	INVENTORY CONTROL							
3	AS OF:	01-Jul-94						
4								
5	ITEM NO.	ITEM NAME	TYPE	VENDOR	DATE REC'D	QTY	UNIT PRICE	TOTAL
6	6310	Draft Printer	Printer	Mountain Office Prod	01-Mar-94	1	294.50	294.50
7	7754	Laser Printer	Printer	Mountain Office Prod	15-Feb-94	3	1,850.00	5,550.00
8	7754	Laser Printer	Printer	Mountain Office Prod	17-Apr-94	3	1,850.00	5,550.00
9	9087	386 Computer, 33	Computer	E & E Electronic Sup	10-May-94	10	1,500.00	15,000.00
10	9087	386 Computer, 33	Computer	E & E Electronic Sup	07-Feb-94	10	1,500.00	15,000.00
11	7574	486 Computer, 50	Computer	E & E Electronic Sup	27-May-94	5	2,170.00	10,850.00
12	2378	386 SX, Laptop	Computer	Coleman Computer Dis	01-Feb-94	3	1,475.00	4,425.00
13	9880	486 Notebook	Computer	Micro Works, Inc.	13-Jun-94	3	2,235.00	6,705.00
14	3432	3.5 HD Floppy	Parts	Micro Works, Inc.	03-Apr-94	10	53.50	535.00
15	3434	5.25 HD Floppy	Parts	Micro Works, Inc.	13-Jun-94	10	53.50	535.00
16	3434	5.25 HD Floppy	Parts	Micro Works, Inc.	03-Apr-94	10	53.50	535.00
17	6301	Mouse & Software	Mouse	Coleman Computer Dis	01-Apr-94	20	83.00	1,660.00
18	7653	Mouse only	Mouse	Coleman Computer Dis	10-Jun-94	10	65.00	650.00
19	7432	Hard Disk - 80 MB	Parts	Micro Works, Inc.	03-Apr-94	10	270.00	2,700.00
20	1190	Hard Disk - 200 MB	Parts	Micro Works, Inc.	03-Apr-94	6	580.00	3,480.00
21								
22								
23								
24								
25								
26								
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28								
29								
30								
31								

Begin the preliminary development by setting widths and formats as follows:

1. Set the Global format to commas with 2 decimal places

2. Set Individual column widths as follows:

Column B	20
Column D	25
Column C, E, G, and H	11

3. Enter the headings in cells,

A1 `VP COMPUTERS, INC.`

A2 `INVENTORY CONTROL`

A3 `AS OF:`

4. Enter the current date in cell B3 as **@NOW**, then format cell B3 as DATE, Style 1
5. Now, beginning on row 5, enter the labels, dates, numbers, and formulas for the first eight columns of the worksheet, as follows:

Column A	Labels
Column B	Labels
Column C	Labels
Column D	Labels
Column E	@DATE formulas, formatted as DATE, Style 1
Column F	Numeric input, formatted as FIXED, 0 decimals
Column G	Numeric input, Global format
Column H	Formula (QTY * UNIT PRICE), Global format

Continue to refer to Figure 7.3 for the information for this worksheet, checking your calculations.

6. Save the file as INVENT.WK1
7. Print the worksheet (use WYSIWYG if your computer supports it)

You will need to compress the print in order to fit this worksheet on one page. Also, remember to set print orientation to landscape.

ARRANGING THE INVENTORY FOR SORTED REPORTS

The 1-2-3 Data Sort command rearranges the rows in the order you specify. The order can be set on any two columns, whether in alphabetic, numeric, or date order.

The terms used in the sort menu are described below:

Data range A range containing only the records in the database to be sorted, excluding the field names. For example, if your database is composed of 5 columns (fields) and 10 rows (records), you must define all

columns and rows as the data range. The row containing the field names must be excluded from the sort data range definition, so that it is not sorted as part of the data range but remains as the header row of the database.

Primary key A key used to set the priority in which the data range is sorted. The primary key is the first column (field), which 1-2-3 uses to determine the new order of the database records. In the Inventory Control example, to sort by name of vendor, the primary key is set by specifying any cell address in column D as the primary key.

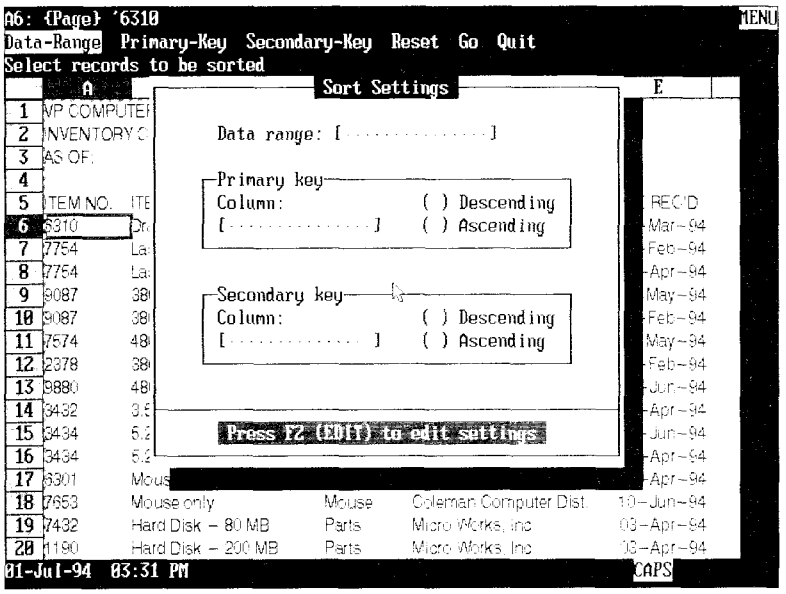
Secondary key The second column (field), used to determine the sort order when exact duplicates are found in the primary key field. In the Inventory Control worksheet example, if column D (VENDOR) is specified as the primary key and contains several duplicate vendor names, 1-2-3 looks for a secondary key and sorts by column C (TYPE) as a second priority within those vendor groups.

123 In this exercise, you will specify the data range to include all rows, excluding the field names. To set the data range as A6..H30,

1. Move to cell A6
2. Select /**D**ata **S**ort

   The screen displays the Sort Settings dialog box with empty ranges for all three necessary ingredients: Data range, Primary key, and Secondary key as shown in Figure 7.4.

Figure 7.4



To set the data range,

3. Select **D**ata **R**ange
4. Press . (period) to anchor the cursor
5. Shade the range A6..H20
6. Press Enter (to complete)

The Sort Settings dialog box returns, this time displaying the data range as A6..H20.

To sort by VENDOR name, set the primary key from the Sort Settings dialog box.

7. Select **P**rimary key

   The control panel prompts, "Primary sort key: A6."

8. Move to cell D6 (one cell in the VENDOR column—column D)

   To select,

9. Press Enter

   To set either Ascending or Descending order, the control panel prompts, "Sort Order (A or D): D."

10. Select **A** for **A**scending

11. Press Enter

    The Sort Settings dialog box returns, this time displaying the primary key as D6..D6 with Ascending marked with * (asterisk).

    To perform the sort,

12. Select **G**o

    The records in the data range reorganize in order of VENDOR name, from Coleman Computer Distributors through Mountain Office Products.

    NOTE: There are many exact duplications in the VENDOR column, such as Coleman Computer Distributors, Micro Works, Inc., and so on.

    To sort on a second level so that the first sort is on VENDOR and the second on TOTAL, give the sort command a second sort priority to set a secondary key.

13. Select /**D**ata **S**ort

14. Select **S**econdary key

15. Move to cell H6 (one cell in the TOTAL column)

16. Press Enter

17. Select **A** for **A**scending

18. Press Enter

    The Sort Settings dialog box returns, this time displaying the secondary key as H6..H6 with Ascending marked with * (asterisk).

    To perform the sort,

19. Select **G**o

    The records in the data range reorganize, *both* in order of VENDOR name, from Coleman Computer Distributors through Mountain Office Products, *and,* within those groups, sorted by the TOTAL column.

20. On your own, print the sorted spreadsheet

Changing Sort Keys

Now, you will rearrange the data in ascending order by the DATE REC'D column, so that you can print the inventory in order of oldest to newest inventory. Therefore, should you have duplicate items in the inventory list, you may follow the rules of the **FIFO** (**first-in, first-out**) method of inventory valuation. Conversely, if you prefer the **LIFO** (**last-in, first-out**) method, you can sort the date column in descending order to list newest to oldest. You will need to reset the primary key and perform the sort. Since no new records have been added, the data range has not changed.

CAUTION: It is a good idea to save your file before performing another sort, since the order of the data will be changed.

1 2 3 In this exercise, you will change the primary key so that you can resort the data.

To change the primary key,

1. Select /**D**ata **S**ort
2. Select **P**rimary key

   The control panel prompts, "Primary sort key: D6."
3. Move to cell E6 (one cell in the DATE REC'D column)
4. Press Enter

   The sort order is previously set to Ascending. To confirm,
5. Press Enter

   The Sort Settings dialog box returns, this time displaying the primary key as E6..E6 with Ascending marked with * (asterisk).

   To perform the sort,
6. Select **G**o

   The records in the data range are now sorted in order of primary key (DATE REC'D); when duplicates are found within those groups, since the secondary key has not been changed, the TOTAL column remains the secondary sort order. For example, the duplicate dates of 03-Apr-94 (primary) are then sorted by TOTAL (secondary).
7. On your own, print the worksheet again
8. Save the file: INVENT.WK1

FILTERING THE RECORDS WITH 1-2-3 QUERY

The sorted Inventory reports that you generated in the first part of this lesson give a complete list of goods on hand by category, but always list *all* the items in stock. Now, management has requested a list of specified records, such as only equipment supplied by Coleman Computer Distributors, or only inventory received after May 1, 1994.

This type of **filtering** data requires the 1-2-3 commands found in the /**D**ata **Q**uery menu. The database spreadsheet setup is the same as for sorting—made up of consistent rows and columns of data, organized by fields. The query statement is typed in a range of cells called **criteria**, using logical operators.

Creating Query Ranges

The necessary setup of the database spreadsheet requires three ranges for performing the query, as follows:

Input Range	Defines the database in which 1-2-3 will search, including field names as well as all rows and columns.
Criteria Range	Specifies the location where the query conditions are typed. The first row must include the field names, and the subsequent rows contain the logical statements to perform matches through the data.
Output Range	Location on the worksheet where the records from the input range meeting the search criteria are copied. The first row must contain the field names you want included in the output report.

When the /**D**ata **Q**uery **E**xtract command is performed, 1-2-3 reads the filter condition(s) in the Criteria range, matches the condition in each row of the Input range, and copies the matching records to the Output range.

CAUTION: The field names must be spelled identically wherever used in all three query ranges. Also, the field names can be multiple words, but cannot occupy more than one row.

Creating the Input Range

In this exercise, you will set up the three query ranges on the inventory control worksheet as shown in Figure 7.5.

First, create the input range,

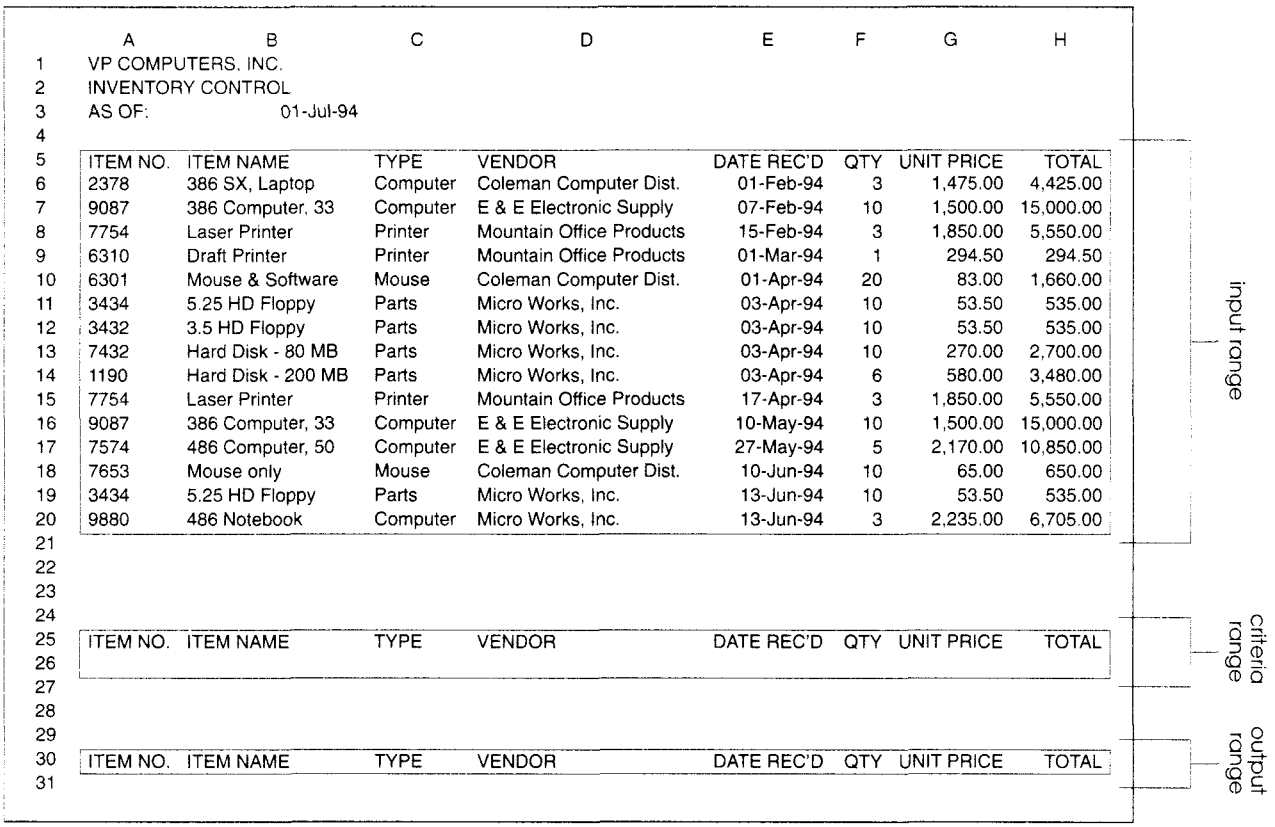
1. Move to cell A5
2. Select /**D**ata **Q**uery

   The screen displays the Query Settings dialog box, showing that the three required ranges are now undefined, as indicated in Figure 7.6.
3. Select **I**nput

   You are returned to the spreadsheet, and the control panel prompts, "Enter Input range: A5." To anchor,
4. Press . (period)
5. Shade the range A5..H20
6. Press Enter

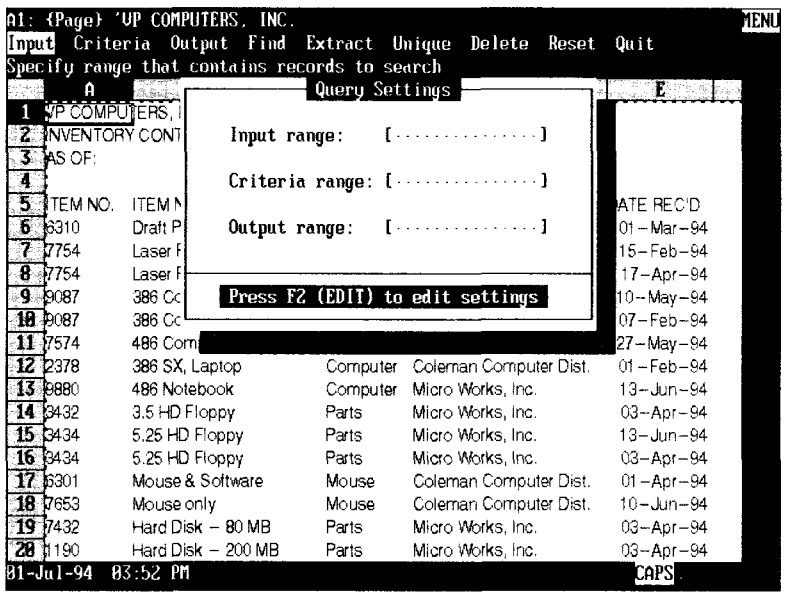
   The Query Settings dialog box now displays A5..H20 as the input range. To return to the READY mode,
7. Select **Q**uit

Figure 7.5



	A	B	C	D	E	F	G	H
1	VP COMPUTERS, INC.							
2	INVENTORY CONTROL							
3	AS OF:	01-Jul-94						
4								
5	ITEM NO.	ITEM NAME	TYPE	VENDOR	DATE REC'D	QTY	UNIT PRICE	TOTAL
6	2378	386 SX, Laptop	Computer	Coleman Computer Dist.	01-Feb-94	3	1,475.00	4,425.00
7	9087	386 Computer, 33	Computer	E & E Electronic Supply	07-Feb-94	10	1,500.00	15,000.00
8	7754	Laser Printer	Printer	Mountain Office Products	15-Feb-94	3	1,850.00	5,550.00
9	6310	Draft Printer	Printer	Mountain Office Products	01-Mar-94	1	294.50	294.50
10	6301	Mouse & Software	Mouse	Coleman Computer Dist.	01-Apr-94	20	83.00	1,660.00
11	3434	5.25 HD Floppy	Parts	Micro Works, Inc.	03-Apr-94	10	53.50	535.00
12	3432	3.5 HD Floppy	Parts	Micro Works, Inc.	03-Apr-94	10	53.50	535.00
13	7432	Hard Disk - 80 MB	Parts	Micro Works, Inc.	03-Apr-94	10	270.00	2,700.00
14	1190	Hard Disk - 200 MB	Parts	Micro Works, Inc.	03-Apr-94	6	580.00	3,480.00
15	7754	Laser Printer	Printer	Mountain Office Products	17-Apr-94	3	1,850.00	5,550.00
16	9087	386 Computer, 33	Computer	E & E Electronic Supply	10-May-94	10	1,500.00	15,000.00
17	7574	486 Computer, 50	Computer	E & E Electronic Supply	27-May-94	5	2,170.00	10,850.00
18	7653	Mouse only	Mouse	Coleman Computer Dist.	10-Jun-94	10	65.00	650.00
19	3434	5.25 HD Floppy	Parts	Micro Works, Inc.	13-Jun-94	10	53.50	535.00
20	9880	486 Notebook	Computer	Micro Works, Inc.	13-Jun-94	3	2,235.00	6,705.00
21								
22								
23								
24								
25	ITEM NO.	ITEM NAME	TYPE	VENDOR	DATE REC'D	QTY	UNIT PRICE	TOTAL
26								
27								
28								
29								
30	ITEM NO.	ITEM NAME	TYPE	VENDOR	DATE REC'D	QTY	UNIT PRICE	TOTAL
31								

Figure 7.6



CREATING THE CRITERIA RANGE

The criteria range must be at least two rows and can be placed anywhere on the spreadsheet. The first row of the criteria range can contain any or all of the field names, in any order, as long as they are spelled exactly as they appear in the input range. The second row of the criteria range is reserved as the location where the conditional search statement is typed.

1 2 3

In this exercise, you will create the criteria range in cells A25 through H26, as follows:

1. Move to cell A5
2. Copy the field name labels from the range A5..H5 to cell A25

   To define the range A25..H26 as the criteria range in the dialog box,
3. Move to cell A25
4. Select /**D**ata **Q**uery **C**riteria

   The control panel prompts, "Enter criteria range: A25."
5. Press . (period) (for the anchor)
6. Using the arrow keys, shade the range A25..H26

   Remember, the first row specified in the criteria range contains field names, and the second is reserved for conditional criteria statements.
7. Press Enter

   The Query Settings dialog box now displays the criteria range as A25..H26.
8. Select **Q**uit

CREATING THE OUTPUT RANGE

The output range must be at least one row and can be placed anywhere on the spreadsheet. The first row of the input range can contain any or all of the field names, in any order, as long as they are spelled exactly as they appear in the input range. If only one row of output range is defined, 1-2-3 will automatically occupy subsequent rows as needed to copy all matching records from the input range. If more than one row is defined as the output range, it must be large enough to accommodate all extracted records.

1 2 3

In this exercise, you will create a one-row output range in cells A30 through H30, as follows:

1. Move to cell A5
2. Copy the field name labels from the range A5..H5, to cell A30

   To define the range A30..H30 as the output range in the dialog box,
3. Move to cell A30
4. Select /**D**ata **Q**uery **O**utput

   The control panel prompts, "Enter output range: A30."
5. Press . (period) (for the anchor)
6. Using the arrow keys, shade the range A30..H30

7. Press Enter

   The Query Settings dialog box now displays the output range as A30..H30.

8. Select **Q**uit

Performing Find and Extract

The **Find** command is used to locate records in the input range that meet the condition in the criteria range. During a find operation, the ↑ and ↓ keys allow you to move through the input range, highlighting or editing only the matching records. The **Extract** command is used to copy the matching records to the output range.

Now that the input, criteria, and output ranges are defined, you are ready to type the conditional statement on the second row of the criteria range to set the filter for the Find and Extract commands.

123 In this exercise, you will Find and Extract all the records containing the vendor name Coleman Computer Distributors. This search is performed on a label column, therefore an exact match of "Coleman Computer Distributors" can be typed in the criteria as follows:

1. Move to cell D26

   Now you will enter the vendor name (upper- or lowercase) for the search string on row 2 of the criteria range.

2. Type `Coleman Computer Dist.`
3. Press Enter
4. Select /**D**ata **Q**uery **F**ind

   Lotus 1-2-3 has highlighted row 6 as the first record containing the vendor name matching the condition in the criteria (Coleman Computer Distributors). To view the next match,

5. Press ↓

   Lotus 1-2-3 found the next occurrence of Coleman Computer Distributors on row 10. Continue finding additional records by pressing the ↓ or move back up through the matching records by using ↑.

   The Find mode is also an edit opportunity. Press → and ← to move across the currently highlighted record, and press F2 (Edit) if you would like to make a change in the information.

   To stop the Find command,

6. Press Esc
7. Select **Q**uit

   Now, you will use the Extract command to copy the records matching the criteria to the output range.

8. Select /**D**ata **Q**uery **E**xtract **Q**uit
9. Move to cell A30

   Move up or down in the output range to observe that it now contains three rows of records that match the criteria range specifying Coleman Computer Distributors.

1 2 3 In this exercise, you will change the criteria, this time setting a condition in the TOTAL field. When setting conditions in numeric or date columns, you must use the conditional operators as listed in Table 7.1 to query the database.

Table 7.1

OPERATOR	USAGE
>	Greater than
<	Less than
=	Equal to
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to

To remove the existing criteria condition,

1. Move to cell D26
2. Press Delete

To create a query to extract all totals greater than or equal to 1000,

3. Move to cell H26
4. Type `>=1000` (for the criteria statement)
5. Press Enter
6. Select /**D**ata **Q**uery **E**xtract **Q**uit
7. Move to cell A30

When you scan the output range, you will now count 10 records, all with a value in the TOTAL column greater than or equal to 1000.

8. Print the output range, cells A30..H40
9. Save the file

MULTIPLE CRITERIA QUERIES

Now, you will use the Extract command to extract records matching a criteria in two (or more) fields. When you enter conditions on more than one field in the criteria range you create an "and" statement, indicating that both conditions must be met to allow a record to copy to the output range.

1 2 3 In this exercise you will query all records with a TOTAL value greater than or equal to 1000 "and" a DATE REC'D of after April 15, 1994.

1. Move to cell E26

A criteria condition for queries on date fields must also include the address of the first record in the input range. The formal syntax of the statement is as follows:

+address>@date(yr,mo,day)

2. Type `+E6>@DATE(94,4,15)` (for the date criteria statement)
3. Press Enter

   NOTE: Asterisks will display in cell E26, indicating an insufficient column width. The display of a date criteria is unique in that it displays 0 for false and 1 for true as it tests the first record in the input range.

   To view the actual result in cell E26,

4. Select /**R**ange **F**ormat **R**eset

   To accept the current range,

5. Press Enter

   NOTE: The condition stated in cell H26 is correct to limit TOTAL values to those equal to or greater than 1000. Therefore, both conditions in cells E26 and H26 must be matched when 1-2-3 extracts a record.

6. Select /**D**ata **Q**uery **E**xtract **Q**uit
7. Move to cell A30

   Move up or down in the output range to observe that it now contains four rows of records that match the criteria range.

8. Save the file and exit 1-2-3

SUMMARY OF COMMANDS

FUNCTION	KEYSTROKES/MENU
Data Sort	
Set the data range	
Specify a primary key	
Select a secondary key	
Query	
Extract	
Specify an input range	
Select a criteria range	
Create an output range	
Find	

SELF-TEST

7-1. What are the two components of a database? Define each component as used in a 1-2-3 worksheet.

7-2. When using the Data Sort command, what is the maximum number of sort order columns that can be specified?

7-3. You have a 1-2-3 worksheet that needs to be sorted. List the three components that must be addressed before the sort can occur and explain the purpose of each.

7-4. The Data Query command allows you to filter records meeting certain criteria. Name the three ranges that are required when performing a Data Query and tell the purpose of each range.

7-5. Describe the differences between the Find and Extract commands.

APPLICATION PROBLEMS

7-1. Retrieve the INVENT.WK1 inventory worksheet. Perform the following series of sorts and queries. Print if desired.

1. Sort the input range on the TYPE field (primary) and the ITEM NAME field (secondary).
2. Extract all items with a TOTAL cost less than $1,000.
3. Sort by ITEM NAME and extract every VENDOR equal to Micro Works, Inc.
4. Sort the input range on the VENDOR field and then extract all items of UNIT PRICE greater than $100.
5. Sort by DATE REC'D and extract for all dates in May and June.
6. Clear the screen—do not save your work.

7-2. Directions:

1. Retrieve the AGED-AR.WK1 worksheet (you created it in Lesson 5) and perform a Data Sort on the Invoice Data column by,
   a. Defining the data range as A7..J16
   b. Defining the primary key as D7 (one cell in the Invoice column) in descending order
2. On your own, sort on the customer name column in ascending order. (Notice that it was sorted by first name.)
3. Use the Data Query command to extract all the clients whose account totals $2,000 or more.
   a. Specify the input range as A6..J16.

      NOTE: If this file still contains a graph below row 25, erase the range to remove the graph.

   b. Copy the column headings in row 6 to cell A26.
   c. Define the criteria range as A26..J27.
   d. Copy the column headings in row 6 to cell A32.
   e. Define the output range as A32..J32.
   f. To find all the customers who owe $2,000 or more, move to cell E27 and type `>=2000`.
   g. On your own, perform a Data Query Extract.

   Compare your worksheet to the one shown in Figure 7.7.
4. Save the worksheet and exit 1-2-3.

Figure 7.7

	A	B	C	D	E	F	G	H	I	J
1					VP COMPUTERS, INC.					
2					AGED ACCOUNTS RECEIVABLE					
3										
4	AS OF:	01-Jul-94								
5						3%				
6	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
7	130	Charles Garvin	C1114	01-May-94	450.75	13.52	0.00	0.00	450.75	0.00
8	140	David Stone	E5050	03-Jun-94	2,600.45	78.01	2,522.44	0.00	0.00	0.00
9	160	Elaine Winter	E4040	15-Jan-94	920.15	27.60	0.00	0.00	0.00	920.15
10	150	Martha Thomas	B4578	02-Jun-94	99.00	2.97	96.03	0.00	0.00	0.00
11	150	Martha Thomas	N3069	18-Mar-94	5,250.00	157.50	0.00	0.00	0.00	5,250.00
12	150	Martha Thomas	B5555	20-Jun-94	145.17	4.36	140.81	0.00	0.00	0.00
13	110	Raymond Appel	A3901	02-May-94	2,508.60	75.26	0.00	0.00	2,508.60	0.00
14	110	Raymond Appel	A4902	01-Jun-94	508.06	15.24	0.00	508.06	0.00	0.00
15	110	Raymond Appel	D1414	14-Feb-94	300.48	9.01	0.00	0.00	0.00	300.48
16	120	Sally Burton	A2020	03-Jun-94	50.84	1.53	49.31	0.00	0.00	0.00
17										
18	Actual				12,833.50	385.01	2,808.60	508.06	2,959.35	6,470.63
19	Estimated						4,000.00	3,000.00	2,000.00	1,000.00
20										
21										
22										
23										
24										
25										
26	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
27					>=2000					
28										
29										
30										
31										
32	CUST. NO.	CUSTOMER NAME	INV. NO.	INV. DATE	INV. AMT.	DISCOUNT	CURRENT	30 TO 60	60 TO 90	OVER 90
33	140	David Stone	E5050	03-Jun-94	2,600.45	78.01	2,522.44	0.00	0.00	0.00
34	150	Martha Thomas	N3069	18-Mar-94	5,250.00	157.50	0.00	0.00	0.00	5,250.00
35	110	Raymond Appel	A3901	02-May-94	2,508.60	75.26	0.00	0.00	2,508.60	0.00
36										

ANSWERS

ANSWERS TO SUMMARIES OF COMMANDS

LESSON 1

FUNCTION	KEYSTROKES/MENU
Display the Lotus main menu	Press the forward slash (/)
Exiting the main menu and returning to the READY mode	Press Esc
GOTO	Press F5
Help	Press F1
Exit Lotus	Select /**Q**uit, Yes

LESSON 2

FUNCTION	KEYSTROKES/MENU
Delete a cell entry	Press Del
Undo	Press Alt-F4
Erase a range	Select /**R**ange, **E**rase
Edit a cell entry	Press F2
Save a worksheet	Select /**F**ile, **S**ave
Change the column width	Select /**W**orksheet, **C**olumn, **S**et-width
Clear the screen	Select /**W**orksheet, **E**rase, **Y**es
Retrieve a worksheet	Select /**F**ile, **R**etrieve

LESSON 3

FUNCTION	KEYSTROKES/MENU
Set/check global width	Select /**W**orksheet, **G**lobal, **C**olumn-width
Create sequence numbers	Select /**D**ata, **F**ill
Set/check global format	Select /**W**orksheet, **G**lobal, **F**ormat
Set range format	Select /**R**ange, **F**ormat
Center labels in a range	Select/**R**ange, **L**abel, **C**enter

LESSON 3 *continued*

FUNCTION	KEYSTROKES/MENU
Insert column	Select /**W**orksheet, **I**nsert, **C**olumn
Delete row	Select /**W**orksheet, **D**elete, **R**ow
Print the current worksheet	Select /**P**rint, **P**rinter, **R**ange (highlight range), **A**lign, **G**o

LESSON 4

FUNCTION	KEYSTROKES/MENU
Invoke the WYSIWYG menu	Select /**A**dd-in, **A**ttach
Align text with WYSIWYG	Select **:T**ext, Align
Bold with WYSIWYG	Select **:F**ormat, **B**old
Set TITLES	Select /**W**orksheet, **T**itles
Clear TITLES	Select /**W**orksheet, **T**itles, **C**lear
Create range name	Select /**R**ange, **N**ame, **C**reate
Print with WYSIWYG	Select **:P**rint, **R**ange, **S**et (select range), **G**o

LESSON 5

FUNCTION	KEYSTROKES/MENU
@NOW syntax	@NOW
@IF syntax	@IF(condition, do if true, do if false)
Eliminate the display of zeros	Select /**W**orksheet, **G**lobal, **Z**ero, **Y**es
Enable worksheet protection	Select /**W**orksheet, **G**lobal, **P**rotection, **E**nable
Disable worksheet protection	Select /**W**orksheet, **G**lobal, **P**rotection, **D**isable
Align a range of labels	Select /**R**ange, **L**abel, select alignment (right, left, or center)
Create an absolute symbol	While in the point or edit mode, press F4 *or* Edit and insert dollar signs ($) from the keyboard
Hide columns	Select /**W**orksheet, **C**olumn, **H**ide

LESSON 6

FUNCTION	KEYSTROKES/MENU
Create a graph	Select /**G**raph, Type, select the type, and set the necessary ranges (X A B C D E F)
View a graph	Select /**G**raph, **V**iew
Add graph titles	Select /**G**raph, **O**ptions, **T**itles
Add legends	Select /**G**raph, **O**ptions, **L**egend
Change a bar chart to a pie chart	Select /**G**raph, **T**ype, **P**ie

LESSON 6 *continued*

FUNCTION	KEYSTROKES/MENU
Name a graph	Select /**G**raph, **N**ame
Save a graph image	Select /**G**raph, **S**ave
Add a graph to its worksheet	Select **:G**raph, **A**dd
Print a graph and a worksheet	Select **:P**rint, **R**ange, **S**et (highlight range), **G**o
Remove a graph from its worksheet	Select **:G**raph, **R**emove

LESSON 7

FUNCTION	KEYSTROKES/MENU
Data Sort	Select /**D**ata, **S**ort
Set the data range	Select /**D**ata, **S**ort, **D**ata-range
Specify a primary key	Select /**D**ata, **S**ort, **P**rimary
Select a secondary key	Select /**D**ata, **S**ort, **S**econdary
Query	Select /**D**ata, **Q**uery
Extract	Select /**D**ata, **Q**uery, **E**xtract
Specify an input range	Select /**D**ata, **Q**uery, **I**nput
Select a criteria range	Select /**D**ata, **Q**uery, **C**riteria
Create an output range	Select /**D**ata, **Q**uery, **O**utput
Find	Select /**D**ata, **Q**uery, **F**ind

ANSWERS TO SELF-TEST QUESTIONS

LESSON 1

1-1. Advantages of computerized spreadsheets are the following:

a. Using the built-in mathematical calculations allows changes and corrections to be made easily and to be automatically updated.

b. Spreadsheet models for common accounting forms can be constructed, consisting of repetitive information and formulas for use each month.

1-2. Release 2.4 has seven palettes of SmartIcons for use with the mouse.

1-3. The worksheet is made up of 256 columns and 8,192 rows. Columns are labeled with the letters A through IV; rows are labeled with the numbers 1 through 8,192.

1-4. The cell pointer marks your active location in the spreadsheet, allowing you to enter information in the current cell.

1-5. The mode indicator is located at the upper-right corner of the screen, telling you which operating mode Lotus is in at the present time.

1-6. Three of the following: NUM, CAPS, SCROLL, date and time, file name of the current document, warnings, and error messages.

LESSON 2

2-1. (') left alignment, (") right alignment, (^) center alignment, (\) fill a cell by repeating a character.

2-2. Column width can be set to a minimum of 1 and maximum of 240.

2-3. In the event of a power loss or power surge, your worksheet will be lost unless it has been saved to disk.

2-4.
```
B10
B10..B10
```

2-5. Yes. You may reverse the last operation with the Undo function, by pressing Alt-F4.

2-6. A range is a group of one or more cells that form a contiguous rectangle or square.

2-7. + (plus), - (minus), * (multiply), / (divide), and ^ (exponentiation)

2-8. Yes. Label prefixes should be used for noncalculating numbers such as telephone numbers, Social Security numbers, account numbers, and so on to prevent them from calculations.

LESSON 3

3-1. Individual column width displays a code such as **[W14]** in the control panel, and global width does not.

3-2. Numbers.

3-3. Range formatting displays a code such as **(C2)** in the control panel, and global formatting does not.

3-4. Currency, 2 decimals
Comma, 2 decimals
Fixed, 0 decimals

3-5. Comma, 2 decimals
Fixed, 0 decimals
Currency, 0 decimals
Date, style 1
Percent, 2 decimals

3-6. @functions consist of three parts: the @ sign, the function name (called keyword), and then enclosed in parentheses the specified range on which this function operates (called argument).

3-7. No.

3-8. Yes. The first date shown is entered as a label because of the label prefix ('), and the second date shown is entered as a function. The advantage to the second example is that because it is a function you will be able to sort and perform calculations with this date.

3-9. For example, January 21, 1970, would be written as
```
@DATE(70,1,21)
```

3-10. Yes. The first formula adds the entire range from cell A1 *through* cell A25, whereas the second formula only adds two cells: cell A1 *and* cell A25.

3-11. The source cell(s) contain *what* you are copying from, and the target cell is the location *where* you are copying to.

3-12. No. When a row is deleted the data is erased and the blank row is placed back at the bottom of the spreadsheet (row 8192).

LESSON 4

4-1. What you see is what you get.

4-2. Manual load requires that you manually start WYSIWYG each time you start Lotus, whereas automatic load begins WYSIWYG at the start of each Lotus session automatically.

4-3. Underline is designed to underscore only characters, not blank cells or spaces. Lines can be used in either filled or empty cells and continue the full width of the cells regardless of the contents.

4-4. WK1 for the worksheet information and .FMT for the WYSIWYG formatting.

4-5. Titles freeze either rows (horizontal) or columns (vertical), or both, along the top and left edges of the screen, allowing the remainder of the worksheet to scroll while the frozen areas remain in view.

4-6. Use the GOTO (F5) function.

4-7. Use range names in formulas in place of addresses, or substitute the range name for addresses in any menu or go to a range name.

4-8. Select **:P**rint.

LESSON 5

5-1. `@IF(A1>0#AND#A1<10,A1*B1,0)`

5-2. = (equal), > (greater than), >= (greater than or equal to), < (less than), <= (less than or equal to), <> (not equal to)

5-3. Protection prevents a cell from being typed in or erased. You may use protection on a worksheet to prevent anyone from accidentally typing a value over a formula in a cell.

5-4. Absolute referencing is used when the original cell address in a formula is to remain the same regardless of where it is copied.

5-5. `+D1*$E$1`

5-6. `+D2*$E$1`

LESSON 6

6-1. A data range defines a range of values in the worksheet to be displayed in a graph. Up to six data ranges are available when creating a graph.

6-2. The X-range is used to label the X-axis of the graph.

6-3. Two. Yes, additional titles may be added along both the X-axis and Y-axis, with the /**G**raph, **O**ptions, **T**itles menu.

6-4. If more than one data series is chosen, you can describe each series with a legend at the bottom of the graph.

6-5. A pie chart uses the A range for values to plot, and the B range for selecting colors or patterns.

6-6. By naming graph settings you can have unlimited numbers of graphs from the same spreadsheet that can be recalled at a later date.

LESSON 7

7-1. **a.** Fields—the categories of data maintained (such as name, address, and so forth)

b. Records—one entry of data, containing fields (one index card)

7-2. Two.

7-3. Define the data range (the cells to sort); define the sort keys (the fields to sort on); and define the sort order (ascending or descending).

7-4. Input range, criteria range, and output range.

7-5. Find simply highlights each record that matches the criteria, whereas Extract copies matching records to the output range.

KEYBOARD USE AND MODE INDICATOR TABLES

CURSOR MOVEMENT KEYS

KEY	CELL POINTER
[↑]	Moves one row up
[↓]	Moves one row down
[→]	Moves one column right
[←]	Moves one column left
[Tab]	Moves right one screen
[⇧Shift]-[Tab]	Moves left one screen
[Ctrl]-[→]	Moves right one screen
[Ctrl]-[←]	Moves left one screen
[Home]	Moves to upper-left corner of worksheet
[Page Down]	Moves down one screen
[Page Up]	Moves up one screen
[End]	Searches for cell where contents change from blank or nonblank cell
[F5]	Goes to a specific cell address

MODE INDICATOR TABLE

MODE	DESCRIPTION
EDIT	The cell entry is being edited. Either there was an entry error or [F2] (Edit) was pressed.
ERROR	Lotus 1-2-3 has detected an error. A description displays at the bottom of the screen. [F1] (Help) is suggested. Press [Esc] to clear the error message.
FILES	Lotus 1-2-3 is displaying a list of file names for selection.
HELP	The help menu [F1] is displayed.

MODE	DESCRIPTION
LABEL	Lotus 1-2-3 has determined that you are entering a label entry.
MENU	The Lotus menu is displayed.
POINT	Lotus 1-2-3 is capturing range addresses during a menu selection or is building a formula.
READY	Lotus 1-2-3 is waiting for a new request or cell input.
VALUE	Lotus 1-2-3 has determined that you are entering a numeric value.
WAIT	Lotus 1-2-3 is processing your last command. A new task cannot be processed until the mode changes to READY
WYSIWYG	The WYSIWYG menu is displayed.

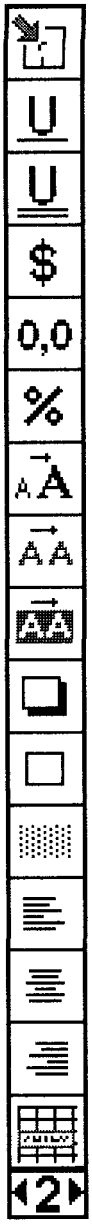
FUNCTION KEY OPERATION

KEY	NAME	FUNCTION
F1	Help	Accesses 1-2-3 help
Alt-F1	Compose	In conjunction with other keys, creates international characters
F2	Edit	Edits the contents of cells
Alt-F2	Step	Steps through macros for debugging
F3	Name	Displays a full screen for file names or range names
Alt-F3	Run	Runs macros
F4	Abs	Creates absolute reference in formulas
Alt-F4	Undo	Reverses last operation since READY mode
F5	GOTO	Goes quickly to designated cell
Alt-F5	not used	
F6	Window	Controls display of dialog boxes
Alt-F6	Zoom	Used in window commands
F7	Query	Performs Data Query Find or Extract command
Alt-F7	App1	Add-in assign key #1
F8	Table	Refreshes a data table
Alt-F8	App2	Add-in assign key #2
F9	Calc	Recalculates the sheet
Alt-F9	App3	Add-in assign key #3
F10	Graph	Displays the current graph
Alt-F10	Add-in	Activates the add-in menu

2.4 SmartIcon Command Reference

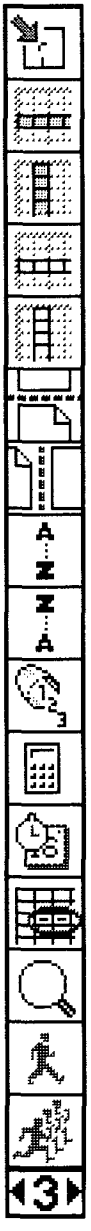
Palette 1

Palette 2



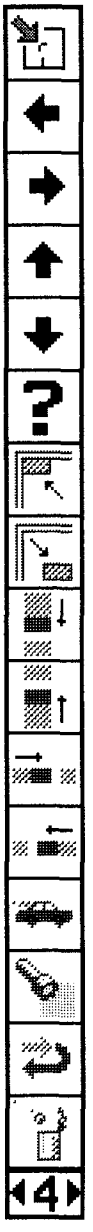
PALETTE 3

Save a file
Insert row
Insert column
Delete row
Delete column
Insert page break in the row
Insert page break in the column
Sort ascending
Sort descending
Data fill
Recalculate
Insert current date
Circle
Zoom
Step a macro
Run a macro



PALETTE 4

Save a file
Move left one cell
Move right one cell
Move up one cell
Move down one cell
Help
Move to home
Move to lower-right corner
End down
End up
End right
End left
GOTO
Find
Undo
Delete highlighted range



PALETTE 5

Save a file

Retrieve a file

@SUM

Create a graph

Add graph to worksheet

View graph

Edit text

Print

Print Preview

Copy

Move

Copy WYSIWYG format

Copy current cell to other cell in the range

Bold

Italic

Restore normal font

PALETTE 6

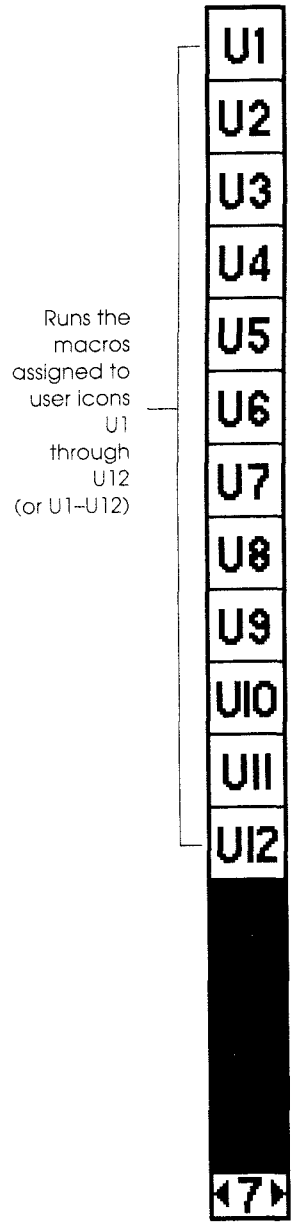
Add icons to custom palette

Remove icon from custom palette

Moves an icon to another location on custom palette

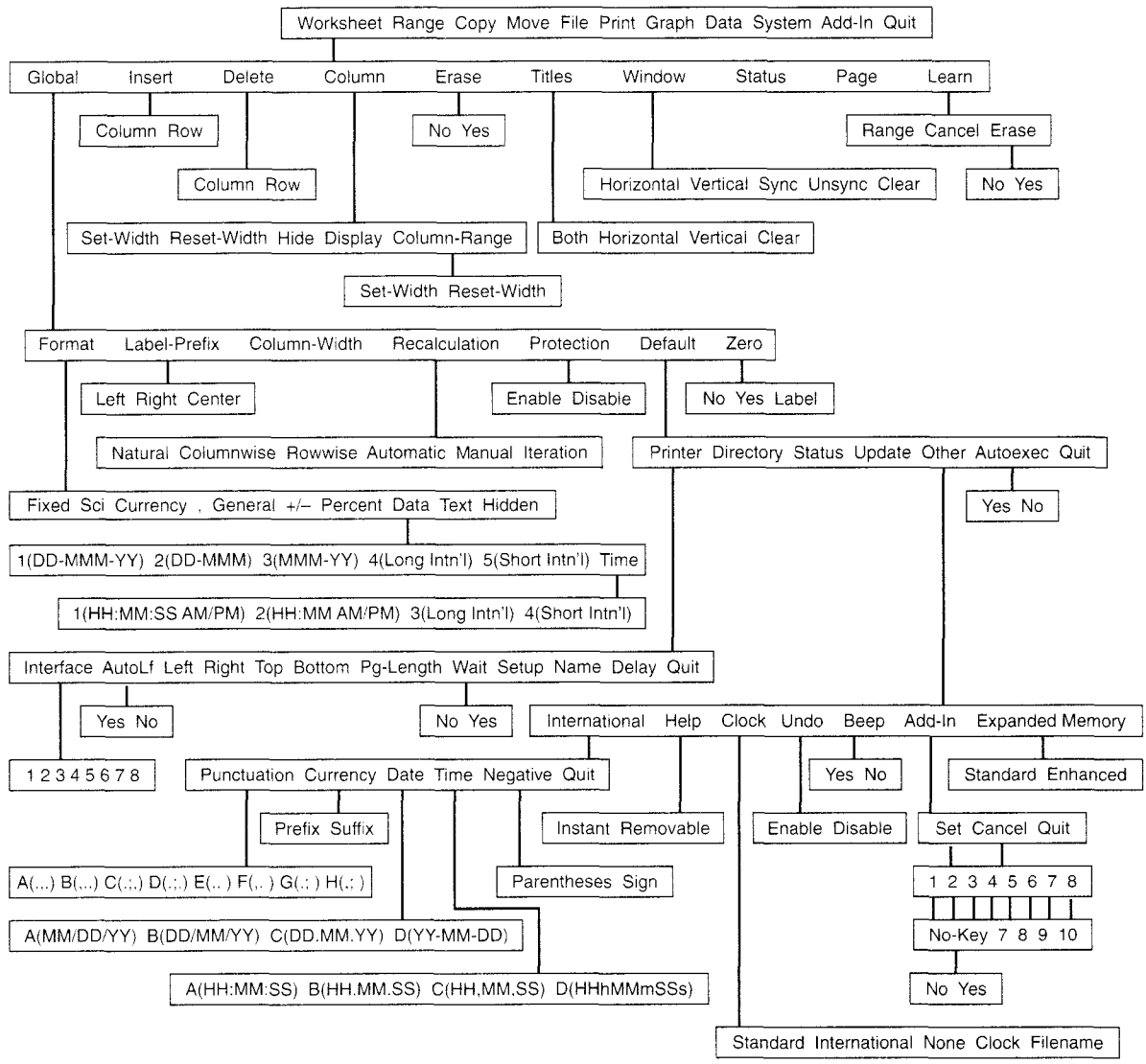
Display descriptions of user icons

Palette 7

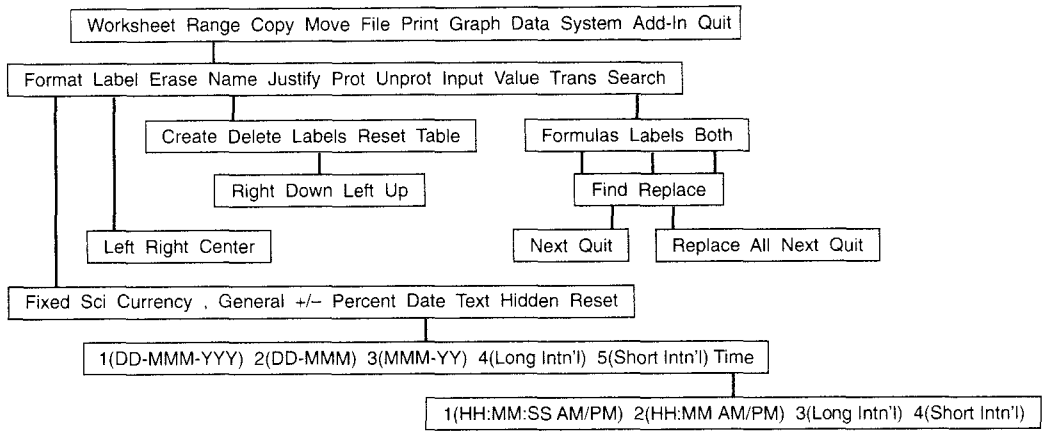

Runs the macros assigned to user icons U1 through U12 (or U1–U12)
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
7

2.3/2.4 MENU REFERENCE

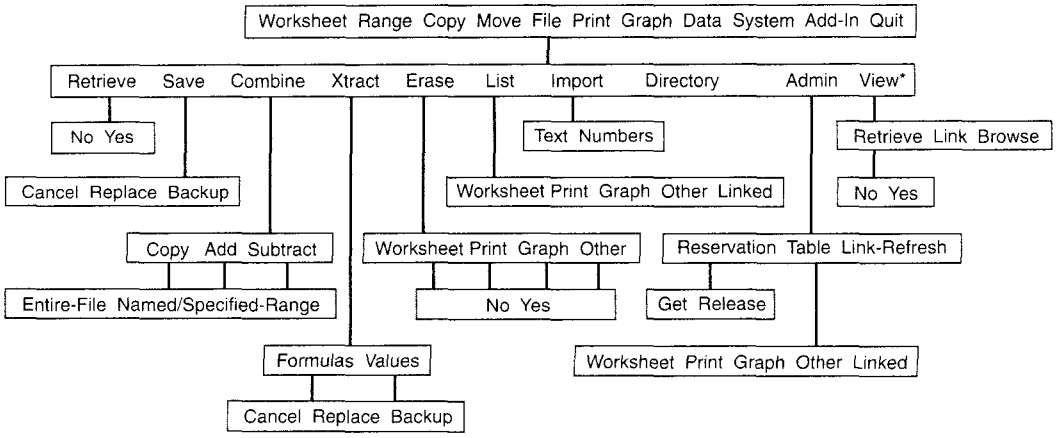
WORKSHEET COMMANDS



RANGE COMMANDS

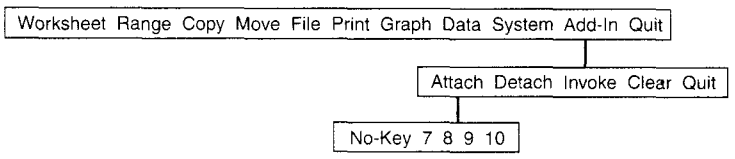


FILE COMMANDS

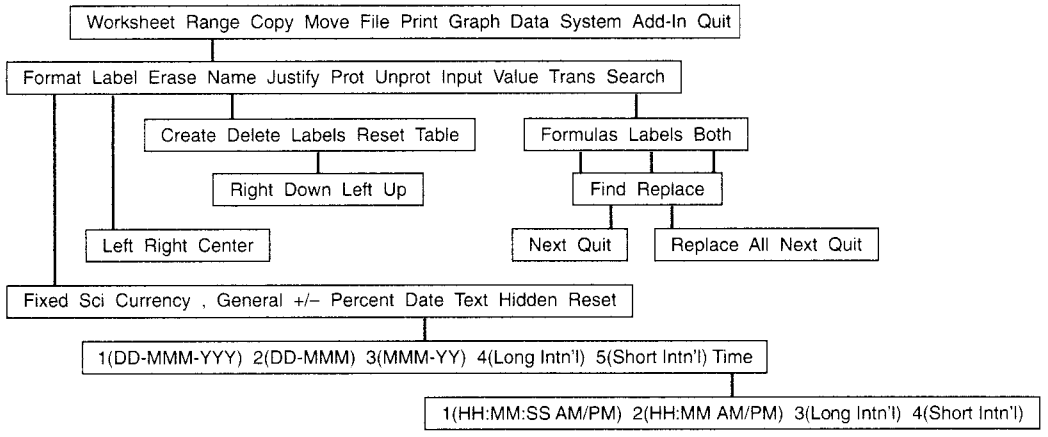


*When Viewer is attached, you can select the View command to activate the Viewer menu.

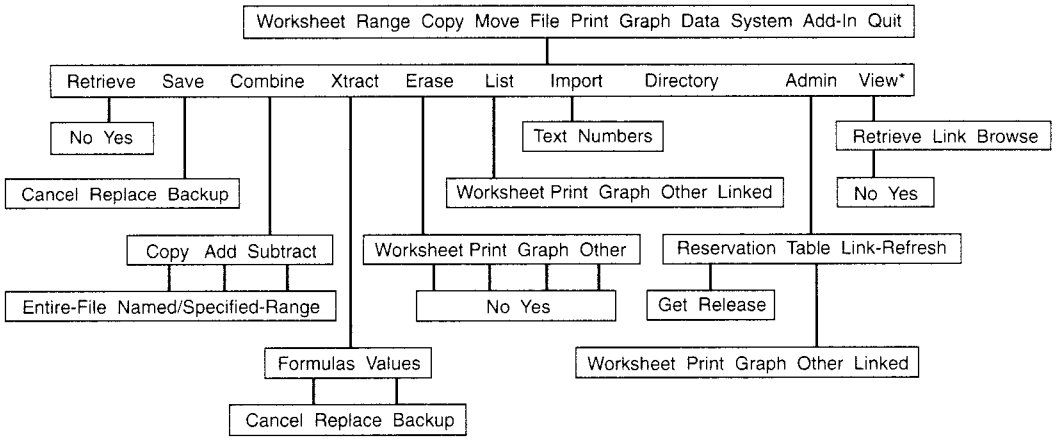
ADD-IN COMMANDS



RANGE COMMANDS

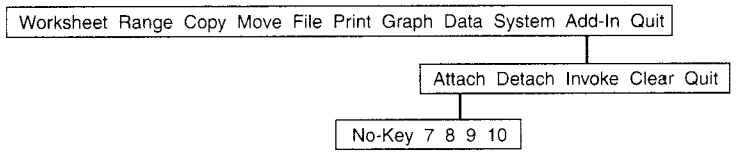


FILE COMMANDS

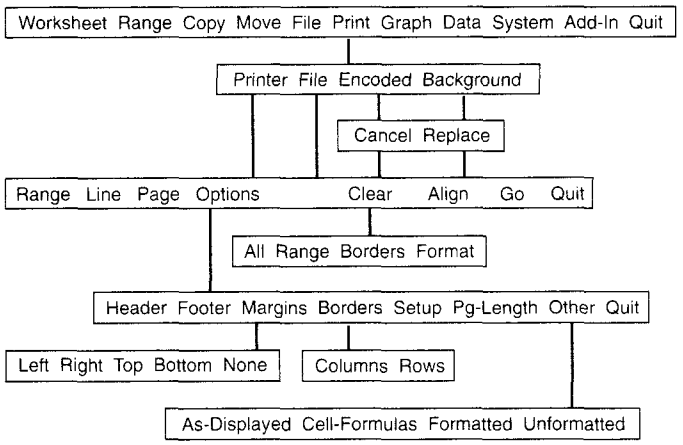


*When Viewer is attached, you can select the View command to activate the Viewer menu.

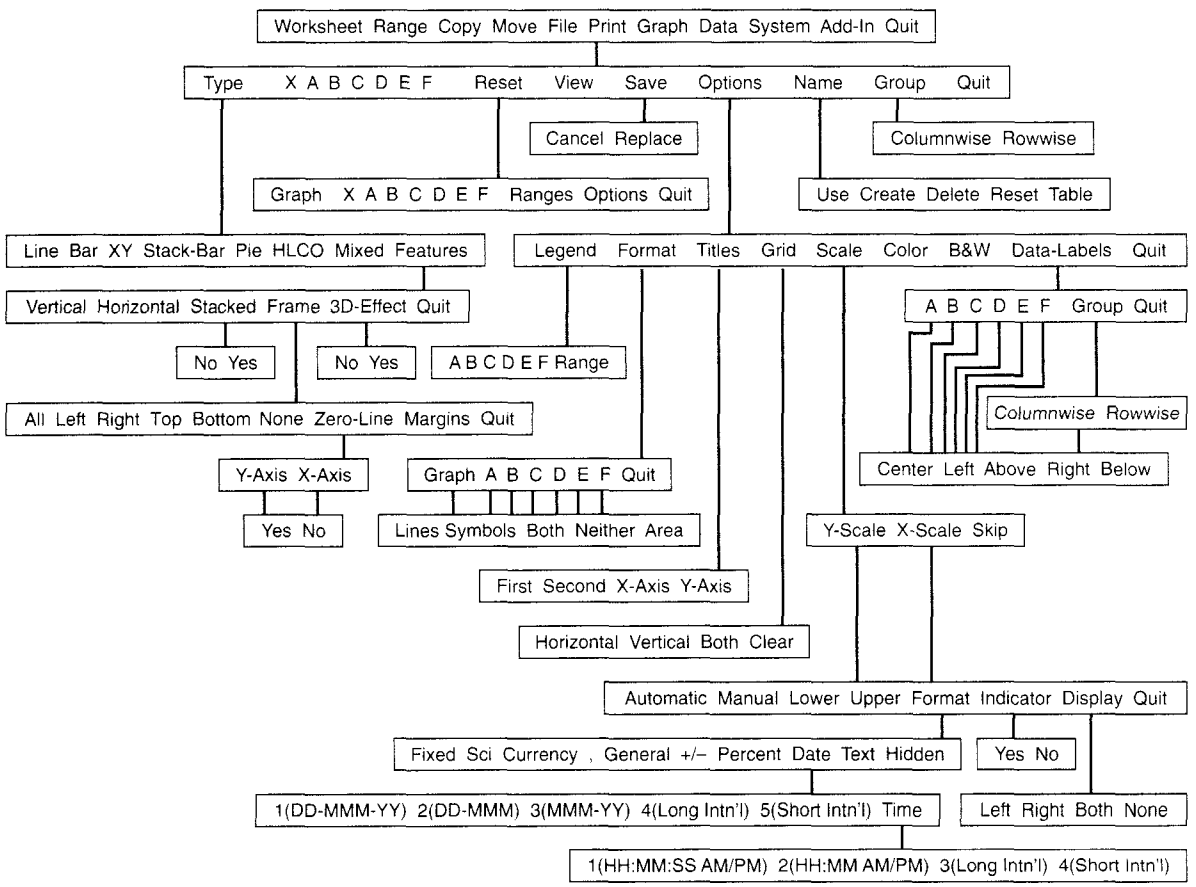
ADD-IN COMMANDS



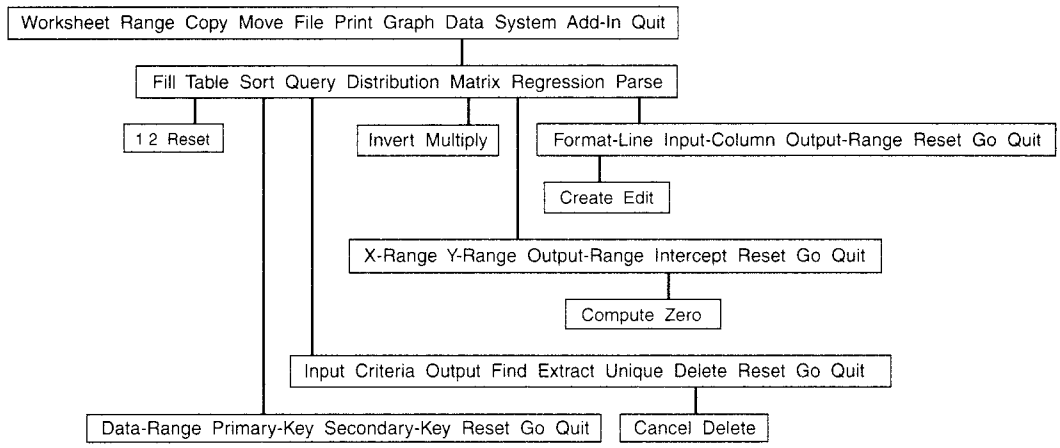
PRINT COMMANDS



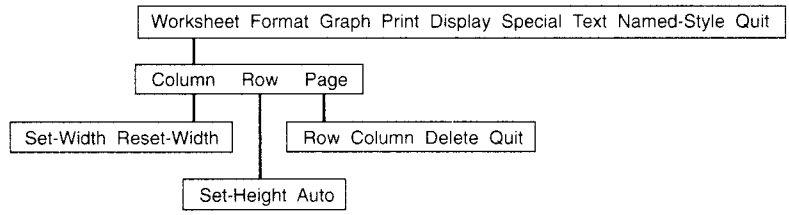
GRAPH COMMANDS



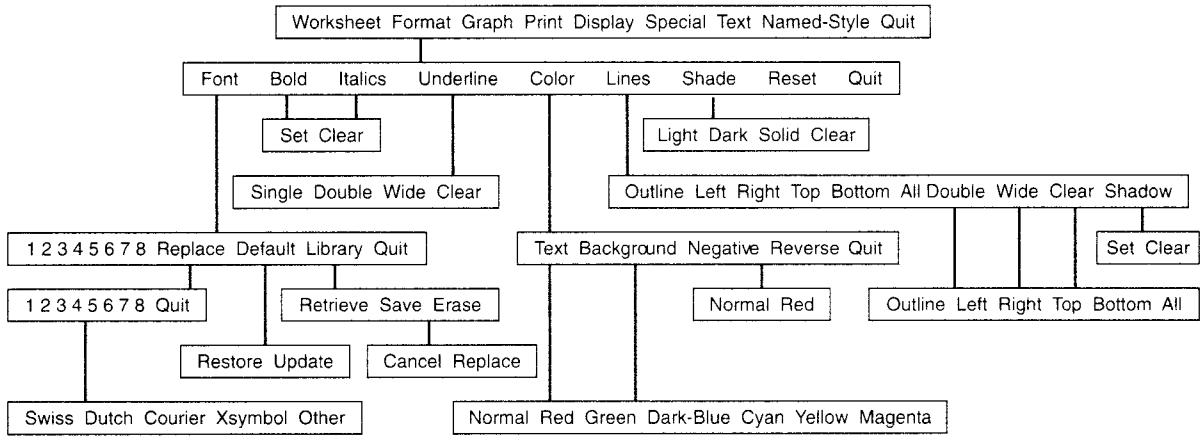
DATA COMMANDS



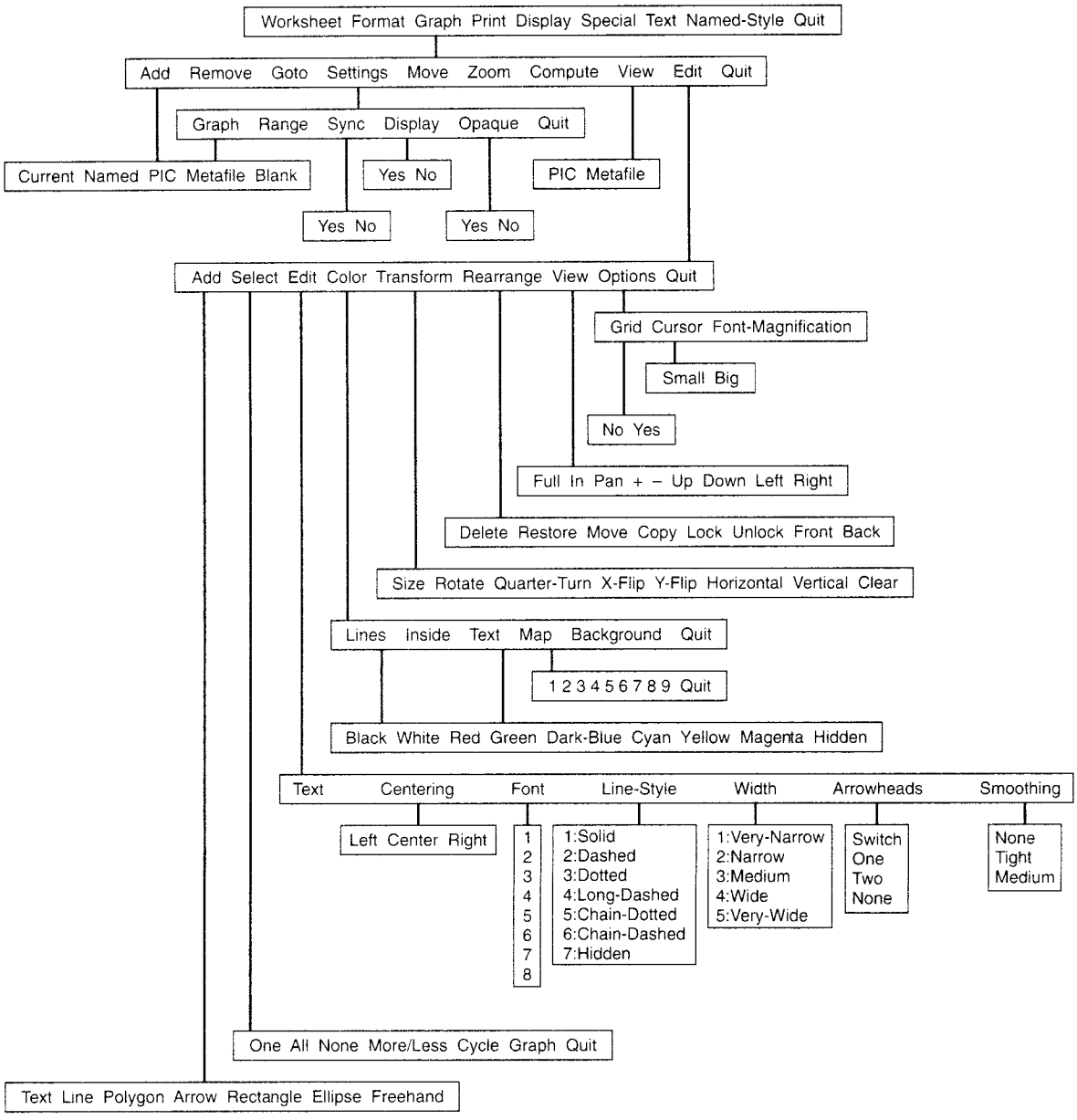
WYSIWYG WORKSHEET COMMANDS



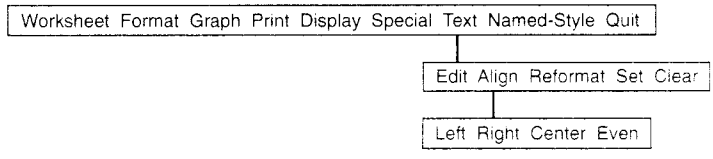
WYSIWYG FORMAT COMMANDS



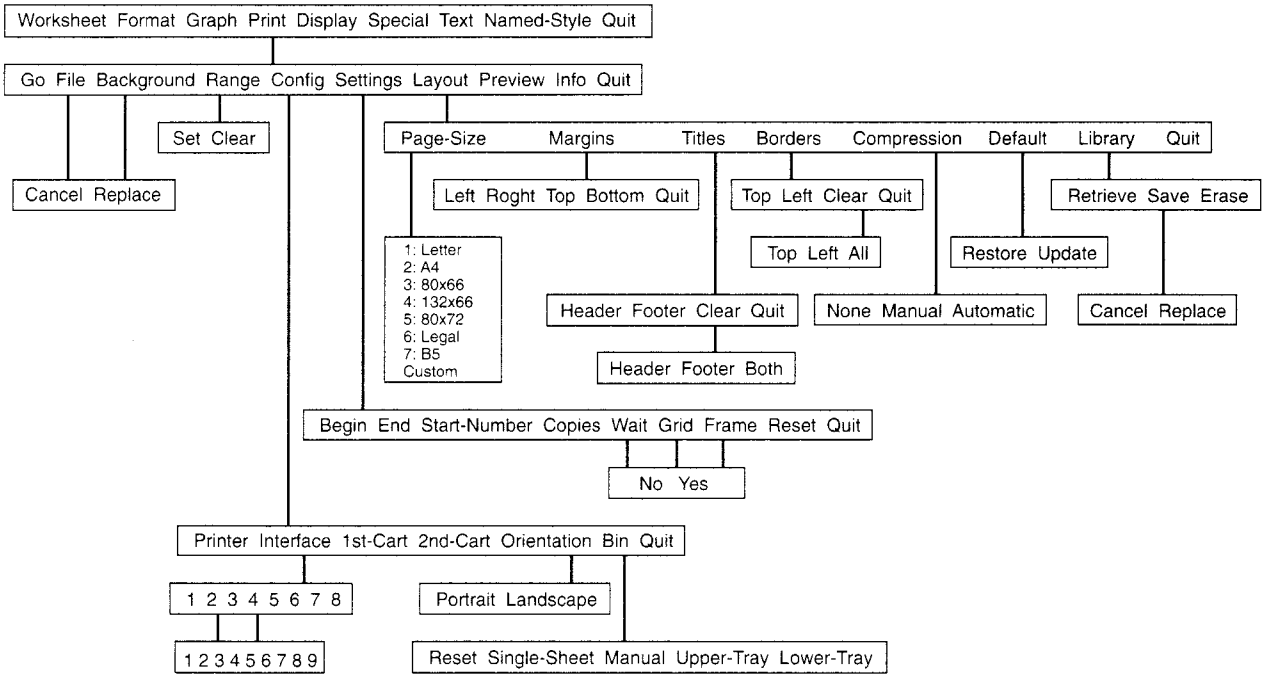
WYSIWYG GRAPH COMMANDS



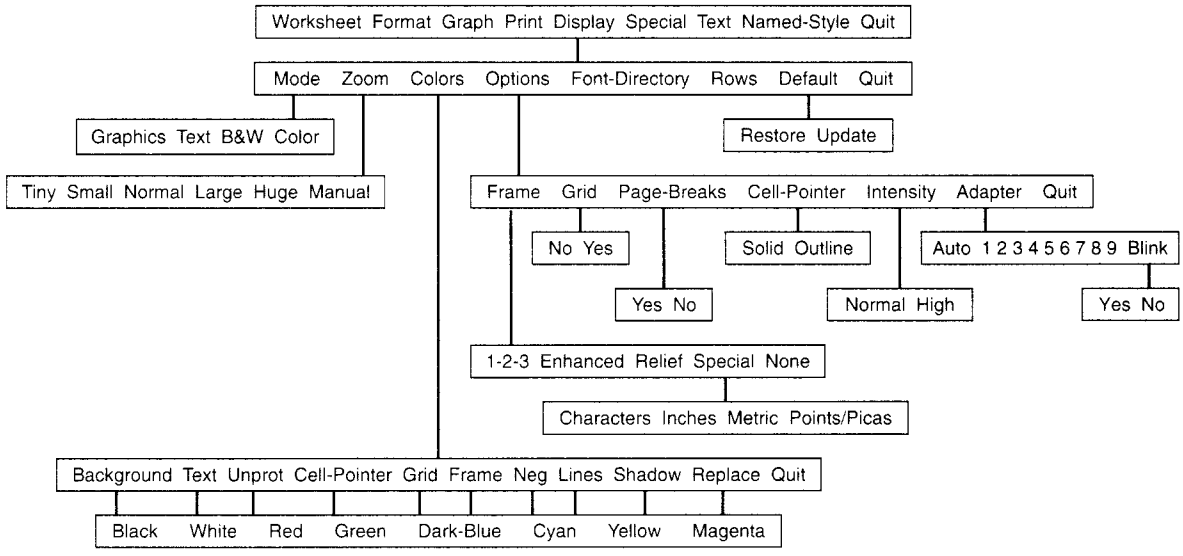
WYSIWYG TEXT COMMANDS



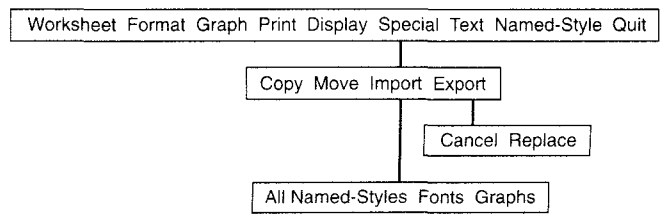
WYSIWYG Print Commands



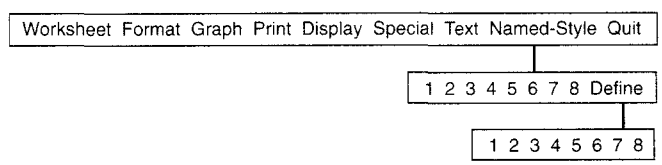
WYSIWYG Display Commands



WYSIWYG Special Commands



WYSIWYG Named-Style Commands



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Designed to teach beginning Lotus 1-2-3 release 2.3 and 2.4 concepts using simple accounting worksheets, **Lotus 1-2-3 for Accounting: A Beginner's Supplement** supplements introductory business and accounting texts.

FEATURES

- **Hands-On, Step-by-Step Instruction.** Explains Lotus step-by-step and applies it to accounting exercises. Screen displays monitor student progress.
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