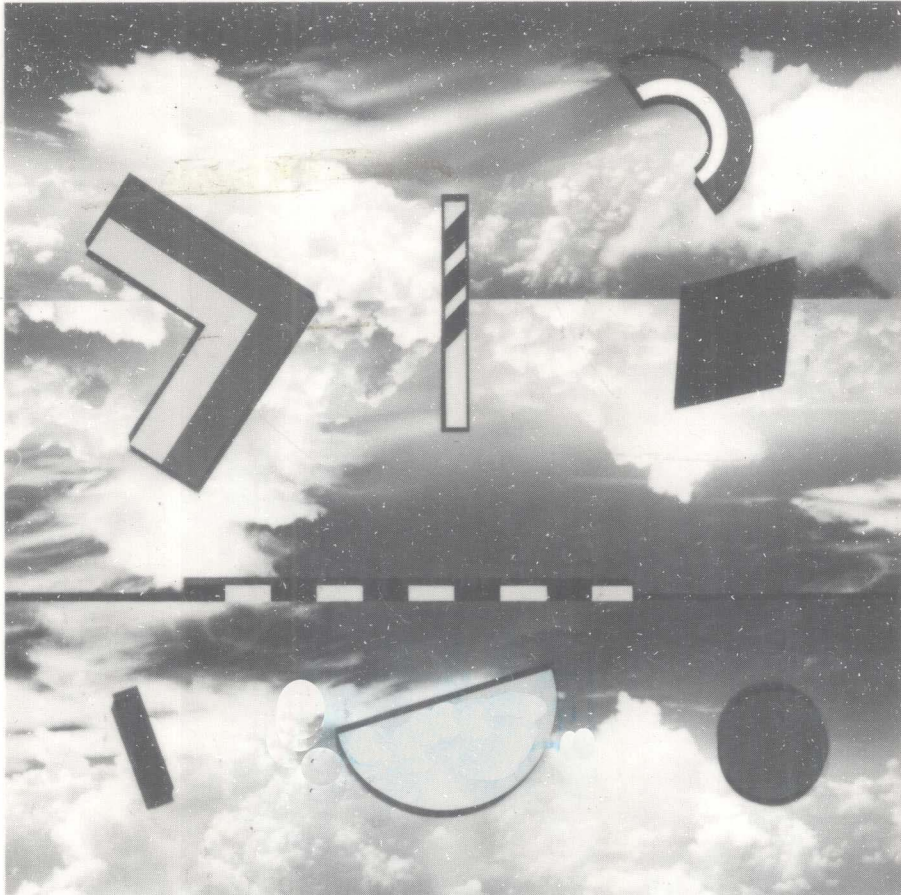


Second Edition

INTRODUCTION TO THE MICROCOMPUTER AND ITS APPLICATIONS

Lotus® 1-2-3®



CHAO C. CHIEN

PC Version

INTRODUCTION TO THE MICROCOMPUTER AND ITS APPLICATIONS: Lotus® 1-2-3®

Second Edition

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INTRODUCTION TO THE

MICROCOMPUTER AND

ITS APPLICATIONS: Lotus® 1-2-3®

To
Mother
With love from us all

INTRODUCTION

The electronic spreadsheet was one of the first commercial business-oriented programs designed specifically for use on the microcomputer. In its ten-plus years of existence, there have been many competing programs and designs. Some have come and gone, while others stayed. The prominent members of this distinguished line of products include such well-known programs as VisiCalc (later SuperCalc and generally recognized as the first spreadsheet program ever designed and marketed), Multiplan, and 1-2-3® by LOTUS®, which has dominated this keenly contested market segment since its inception in 1982. Today, although again challenged by new competitors, 1-2-3 remains the most widely used spreadsheet program and the industrial standard of commercial spreadsheet programs.

This booklet is written for use in a course devoted to the study of the spreadsheet program using 1-2-3. It is extracted from Chapters 9 through 13 of *Introduction to the Microcomputer and its Applications*. To aid your study of the subject material, a data diskette has been prepared for your use. Because this diskette is also used by *Introduction to the Microcomputer and its Applications*, you will find that there are many more files on the data diskette than are needed. Ignore the unnecessary files and try out the example illustrations and perform the exercises as instructed in the text.

ABOUT THE DATA DISKETTE

The data diskette has the following directory structure:

\BATCH	(For use with PC-DOS and batch files.)
\WP-FILES	(For use with WordPerfect.)
\WP-LTD	(For use with WordPerfect limited edition.)
\WS-FILES	(For use with WordStar.)
\123FILES	(For use with 1-2-3.)
\DB3FILES	(For use with dBASE III Plus/IV.)
\ADDRESS	(For use with dBASE III Plus/IV.)
\WORKFILE	(Extra work files for exercise or exam use.)
\WORDPERF	(For use with WordPerfect.)
\WP-LTD	(For use with WordPerfect limited edition.)
\WORDSTAR	(For use with WordStar.)
\LOTUS123	(For use with 1-2-3.)

\DBASE (For use with dBASE III Plus/IV.)
\DBASE-ED (For use with dBASE III Plus educational version.)

The 5¼ inch diskette is entirely occupied by the files in these directories. In order to use the diskette, you should first create a working diskette by disk copying the data diskette onto a blank diskette (using the PC-DOS command DISKCOPY A: A:) and then making room on it by removing the unnecessary files and directories. For this booklet, the only directories required are \123FILES and \WORKFILE\LOTUS123.

To remove a directory, you must first erase its files. For example, to remove directory \DB3FILES, use the following PC-DOS commands:

```
ERASE A:\DB3FILES\*. *  
RD A:\DB3FILES
```

To remove the \WORKFILE subdirectory, first erase all of its files. For example, to remove the \WORKFILE\WORDPERF subdirectory, use the PC-DOS command:

```
ERASE A:\WORKFILE\WORDPERF\*. *  
RD A:\WORKFILE\WORDPERF
```

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Chapter 1

Beginning Spreadsheet Operations

After reading this chapter, you should be able to:

- Describe the components of the spreadsheet
- Use the 1-2-3 command menu system
- Perform spreadsheet data entry operations
- Differentiate between alphanumeric and numeric data
- Perform spreadsheet data editing
- Work with worksheet cell ranges
- Set a worksheet column width
- Save and retrieve worksheet data files



The **spreadsheet** (also called the **ledger sheet** or **worksheet**) is a document used by accountants and bookkeepers to keep track of figures and perform computations (see Figure 1.1). On a spreadsheet, vertical and horizontal lines form **cells** into which numbers are systematically entered and computed. Activities typically performed on a spreadsheet are budgeting, financial analysis, and forecasting, but the spreadsheet can be used to organize and manipulate practically any numerical data in tabular form. For example, a salespeople performance analysis can be performed on a spreadsheet as shown in Figure 1.2.

FIGURE 1 ■ 1 An accountant's spreadsheet

FIGURE 1 ■ 2

Sales, performance study

Salesperson	Month				TOTAL
	Jan	Feb	Mar	Apr	
1 Eileen Jones	5500-	6000-	5700-	6150-	23350-
2 Al Kilmer	4700-	4850-	5200-	4550-	19300-
3 Ed Mahue	6000-	6250-	7400-	5200-	25850-
4 Dave Nelson	3900-	3700-	4100-	3700-	15300-
5 Jack Smith	5100-	5250-	5200-	5250-	20800-
6 Jackie Page	5100-	5250-	6200-	6100-	22650-
7					
8					
9					
10 Monthly TOTAL	31900-	31900-	33950-	35200-	
11					
12					
13					
14					
15					
16					
17					

The spreadsheet is useful because its working data (numbers) are organized, thereby facilitating performance of calculations, verifications, and reviews. For example, in Figure 1.2 the individual salesperson's performance can be totaled along a **row** and the result entered at the end of the row. Likewise, company sales for a given month can be totaled and entered at the bottom of a **column**. To verify the additions, we can add the salespersons' totals to form a grand total and add the monthly sales totals to form another grand total. Because each grand total represents the company's total sales, the two ought to be the same. If they differ, we can conclude that some calculations are wrong.

Spreadsheet computational errors are common when the computations are performed by hand, even with the help of calculators. When the accountant finds a mistake, he or she must trace the entire sequence of calculations in order to locate the error. In manual operations using paper spreadsheets, this process is tedious. The electronic spreadsheet program was invented to enhance accuracy and operational efficiency.

Before you begin using an electronic spreadsheet program, you must understand that while the computer can be made to perform the spreadsheet operations, it does not understand accounting principles. The spreadsheet program is merely a tool for doing accounting work efficiently. To perform a spreadsheet application successfully, you must first know accounting. While this book is not intended to teach accounting, it uses simple examples to illustrate the electronic spreadsheet operations discussed in this and the following four chapters. In this way, you can learn basic accounting principles as you progress.

THE ELECTRONIC SPREADSHEET PROGRAM

The spreadsheet program we will use is 1-2-3 from Lotus. Although not the first spreadsheet program designed, 1-2-3 is the best-selling microcomputer business software today. By learning spreadsheet program operations with 1-2-3, you will gain most of the necessary skills. Further, the knowledge you acquire will be directly applicable in the business world.

Since its creation, 1-2-3 has been improved several times. The most currently used version is 1-2-3 Release 3.0. Because it is designed for use by the IBM PC Model AT and up—that is, those computers equipped with at least the Intel 80286 microprocessor—it will not run on IBM PCs and XTs, which basically use the 8088 microprocessor. Also, Release 3.0 requires a minimum RAM of 1 megabyte to operate, and not too many existing computers have an extended memory. For the 8088-based computers, Lotus offers Release 2.2. Undoubtedly these newer versions offer a number of improvements over Release 2.01—still the most widely used version—but these should be mainly in the advanced features, such as the ability to display three-dimensional charts. For our purposes, Release 2.01 will work quite well.

STARTING 1-2-3

To activate 1-2-3, do the following. If you are using a computer with two floppy disk drives,

insert the 1-2-3 system diskette in drive A and a formatted data diskette in drive B. Then enter LOTUS.

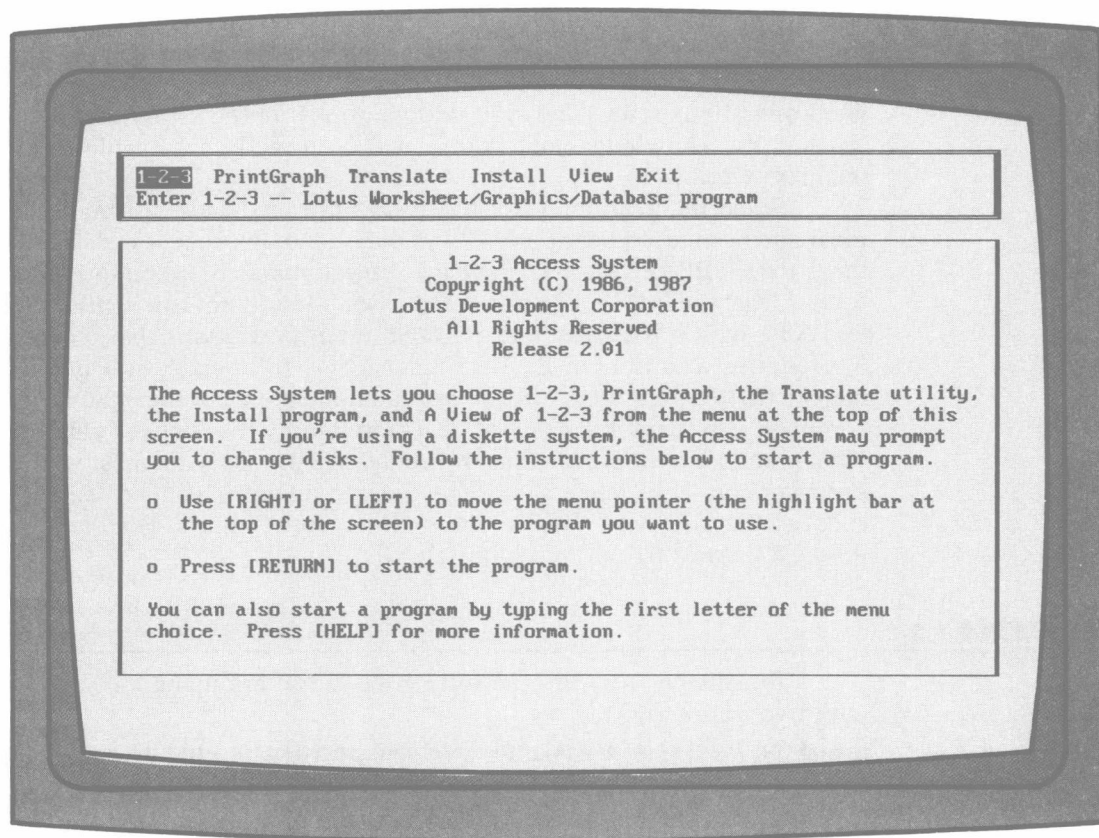
If your 1-2-3 program has been installed on a hard disk,

change to the 1-2-3 program subdirectory, such as CD\123, and enter LOTUS at the system prompt, C>, with the 1-2-3 system diskette in drive A if required. (Insert the formatted data diskette in drive B if you intend to save the data on a diskette.)

The screen display in Figure 1.3 will then appear. This screen is the 1-2-3 Access Screen or **Access System**. From this screen, you can access the major 1-2-3 program modules.

The 1-2-3 Access System

You will notice that near the top of the screen is a row of words representing 1-2-3's major processing functions. This is called a **command menu**. 1-2-3 is a **menu-driven** program, meaning that the processing commands are activated by selecting the entries from menus. The first menu entry, "1-2-3," is highlighted or displayed in reverse video. **Reverse video** means that the characters (called the **fore-**

FIGURE 1 ■ 3 The 1-2-3 Access System

ground) and the **background** have switched colors. This is 1-2-3's way of telling you that 1-2-3, the spreadsheet operation, is the default or assumed command and that to activate it you need only press <Enter>.

Directly below each command is a brief explanation of it. The opening screen tells you that 1-2-3 is the command through which you can activate the basic spreadsheet, graphics, and built-in database functions.

Selecting 1-2-3 Commands

To choose from the menu entries, you highlight the desired entry by pressing the right or left arrow key. After each key press, the next command becomes highlighted and the associated explanation dis-