

# APEX Workbook for Computer-Aided Instruction

DOS, Lotus, WordPerfect, dBase III+

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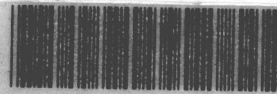




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304 Newbury Street  
Boston, MA 02115

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## ACKNOWLEDGMENTS

We wish to thank the following individuals and universities for their cooperation and effort in the evaluation of this training program.

Sultan Bhimjee  
San Francisco State  
University

Joseph Campbell  
Kansas State University

Stephanie Chenault  
College of Charleston

Donna Driscoll  
California State University at  
Northridge

Dave Dusseau  
University of Oregon

Eleanor Flanigan  
Montclair State University

Larry Fulton  
College of Charleston

Carol Gazik  
Christian Brothers College

Harriette Griffin  
North Carolina State  
University

Fred Guillot  
Southeastern Louisiana  
University

Toby Gustafson  
University of California at  
Riverside

Bonnie Homan  
San Francisco State  
University

Bill Kraynek  
Florida International  
University

A.C. Krizan  
Murray State University

Stan Lewis  
University of Southern  
Mississippi

Gerald F. Mackey  
Georgia Institute of  
Technology

Steven Mark  
Murray State University

Phil May  
Wichita State University

Lawrence McNitt  
College of Charleston

Gary Merlo  
Westfield State College

James Moore  
Christopher Newport  
College

Susan Pedersen  
University of Nebraska  
at Omaha

Rodney A. Pearson  
Mississippi State University

Pattie Riden  
Western Illinois University

John M. Samaras  
Valdosta State College

Peter Simis  
California State University  
at Fresno

Carl Steidley  
Southeastern Louisiana  
University

Sherre Strickland  
University of Massachusetts  
at Lowell

James Wade  
Christian Brothers College

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## **The APEX Workbook DOS Section Introduction**

### **Introduction to the APEX Workbook**

The Computer Based Training (CBT) you are about to begin has two components. The first is interactive training software that takes advantage of the power and availability of the personal computer (PC). The second component is this workbook to summarize the training software and give practical step by step instruction for use in your daily personal, college, or business life. The use of both media gives the best learning experience. First you receive expert instruction at your own pace with considerable flexibility in an interesting CBT presentation format. Second, the experience is sustained by the ability to take your newly attained knowledge with you in the form of the APEX Workbook.

The APEX Workbook compliments the training software by giving lesson summaries command lists, glossary, and a place for student notes so all can be reviewed later. In addition practical examples, for your daily application of what has been learned, are included in the workbook These "How to" functional examples are step by step instructions to guide you when using the software product; DOS, WordPerfect, Lotus, or dBASE IV. In this way the workbook enables you to use the product in real life, outside of the CBT Learning Labs you will always have at hand the lesson summaries, your notes, command lists, a glossary, and the step by step examples of practical daily usage to refresh your memory, when needed.

### **Introduction to DOS**

Disk Operating System or DOS is the heart of the IBM compatible PC (personal computer). Like a policeman who directs traffic at a busy intersection, DOS controls and directs the movement of programs, games, and applications through your computer. DOS is a program by itself and your computer will not run without it or a similar program like it. DOS assists you in creating and maintaining your directories, and files. It also helps you to back-up and restore your computer hard disk, sorts the data in a particular order, protects your files from accidental updating, etc.. DOS lets you use devices such as printers, and diskette drives. This is only a brief list of what DOS can do. As a result of this training program, you will learn the many capabilities of this powerful operating system.

DOS is released in different versions, such as 2.1, 3.2, and 3.3 by different computer companies. Normally the higher the version number of DOS, the more commands or capabilities are available. DOS version numbers may vary with different computers. When you start your computer, after DOS is loaded, DOS shows it's version number on the screen. This training program covers DOS 3.3. It is important to know what version of DOS your computer is running.

### **How to Use Your Training Program**

The Computer Based Training (CBT) you have begun is the APEX interactive training program, it takes full advantage of the power and availability of the personal computer (PC). The use of this media enables you to receive expert DOS instruction at your own pace with considerable flexibility and interesting presentation. Plus, you can take your newly learned knowledge of DOS with you in this workbook.

“At your own pace” features of the interactive training program constitute several areas of flexibility. Lessons may be taken or reviewed in any order. You are able to move not only forward through the course, but backward at the touch of a button to immediately verify or refresh your memory during the lesson.

The APEX interactive training program helps you to easily develop and practice new skills at different levels of expertise. The training is divided into BASIC lessons and ADVANCED lessons. Each time the course is started you may be asked to choose ADVANCED or BASIC level of instruction. Of course, BASIC is the place to start, but soon you will have worked with both sets of lessons. Depending upon your choice, a menu is presented. As in a restaurants, a menu is a list. In this case, the menu lists lessons to be taken at the chosen level of instruction, BASIC or ADVANCED. Now, you have the flexibility to take the lessons in any order. Each takes approximately 10 to 15 minutes to complete. For the first time through the course, it is recommended to take them in the order in which they are listed. The training software presents simulations of DOS throughout the lessons.

Small boxes of text (split screens) are displayed over the simulations to give instructions or explain the results that occurred in the simulation. In this manner, the student is led through DOS and its features by giving the exact commands and key strokes used in the real product and seeing the results in the simulation. The student must interact by pressing a key to move to the next box of text. This self pacing focuses attention on the facts, concepts, and examples as you proceed forward (or backward, for review and clarity) through the lesson. Each feature of the product is learned first by explanation and then by performing the action according to the guidance of the text boxes and finally by observing the results of your actions within the product simulation.

## Keys that Control Your Lessons

There are four keys that you will use to control your training session. These are the HOME, END , PGUP, and PGDN keys.

**HOME** The HOME key can be pressed at any time to return you to the original Basic or Advanced Menu that was last selected during your current use (session) of the training software. This might be done to go back and select another lesson rather than the one you are presently using.

**END** The END key is used to stop the lesson you are using and display the explanation of these four standard keys. Press the SPACE BAR to continue where you left within your lesson. Or, if you wish to exit the training program at this time, press the ESC (escape) key. If you enter your name at the beginning of a session and then reenter it exactly the same way at the beginning of your next training session, you will be given the option to restart with the exact screen from which you left via the END key.

**PGUP** The PGUP (Page Up) key is used to go back to the previous screen within this lesson.

**PGDN** The PGDN (Page Down) key is used to go forward to the next screen within this lesson.

automatically set within the lesson. If you decide not to exit after pressing the END SPACE BAR will return you to your lesson.



## LOAD DOS

You will need to load DOS every time you use your computer. Loading DOS is very easy. In fact, all you do is insert the DOS Startup diskette into your computer and turn it on. If you have a computer with a hard disk, DOS is loaded automatically whenever you turn on the system.

### Enter Current Date

**Current date is Tue 1-01-1988**  
**Enter new date (mm-dd-yy):**

This message appears on the top of the screen when DOS begins. DOS has displayed a date. This is the first message you will see when you turn on your computer. This date will be used by DOS as the current date, unless a new date is entered. DOS is waiting for us to enter a new date or to accept the displayed date. Many people enter the current date to keep track of their work. The cursor shows where the first number you type will appear.

The date format is mm-dd-yy.

mm - month	Type a number between 01 and 12.
dd - day	Type a number between 01 and 31.
yy - year	Type a number between 90 and 99.

Separate the three parts of the date (month, day and year) with a hyphen (-). Do not spell out the day of the week. DOS displays the day for your information. Let's assume that today is November 13, 1989. To enter this date...

- \* Type 11-13-89
- \* Press the <enter> key

**Current date is Tue 1-01-1988**  
**Enter new date (mm-dd-yy): 11-13-89**  
**Current time is 0:01:17:17**  
**Enter new time**

### Entering Time

Notice the new message in the example. DOS has displayed a time and is waiting for us to enter a new time. If we do not enter a new time, the time that is displayed will be used by DOS as the current time. DOS will use the current time to help us remember when a file was last updated. It's usually a good idea to enter the correct time. You never know when you might want to check when a file was last worked on.

The time format is hh:mm:ss:cc.

hh - hours	Type a number between 0 and 23, then a colon(:).
mm - minutes	Type a number between 0 and 59, followed by a colon(:).
ss - seconds	Type a number between 0 and 59, followed by the separator displayed on the screen.
cc - 1/100th seconds	Type a number between 0 and 99.

Let's assume it's 10:32 am. To enter this time...

- \* Type 10:32
- \* Press the <enter> key

Current date is Tue 1-01-1988  
Enter new date (mm-dd-yy): 11-13-89  
Current time is 0:01:17:17  
Enter new time: 10:32

The IBM Personal Computer Dos  
Version 3.30 (C)Copyright International Business Machines  
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(C)Copyright Microsoft Corp 1981, 1986

C>

After you enter date and time, DOS displays the name of DOS, the version number, and the Copyright information. This is for your information only. DOS version number helps you to determine what commands will be applicable for your computer. Notice the C> symbol. This is called the C> prompt. DOS has been loaded into your computer. Each time you see the C> prompt, it means DOS is waiting for you to tell it what to do. Some computers will display the A> prompt instead. We will discuss this in more detail later. Notice also the blinking mark after the C> prompt. This mark is called the cursor. The cursor marks your position on the screen and moves as you type.



## Additional Information on DOS

DOS is short for Disk Operating System. An operating system is a set of computer programs that help you use your personal computer. DOS provides you with a series of commands. These commands can help you communicate with your computer.

**PC-DOS** The Operating system named PC-DOS is a special edition of DOS developed for IBM Personal Computers.

**MS-DOS** Another Operating system is MS-DOS, the standard edition of DOS developed by Microsoft, for all PC compatibles.

## Starting Your Computer

Starting or "Booting" your computer means getting ready to run programs. It comes from the saying "pulling oneself up by one's bootstraps". You will probably start your computer one of two ways based on your equipment.

**For PCs with One or two floppy diskette drives, drive A and/or drive B.**

1. Putting the DOS Startup Diskette into the drive.
2. Turning the power on.
3. Answering the date and time prompts.

**For PCs with a hard disk, there are two steps:**

1. Turning the power on.
2. Answering the date and time prompts.

## Date and Time

DOS can help you keep track of the date and time of your computer work. When you start up DOS, you can set the system date and time. DOS will continuously update the time while the system is on. Many computers have internal clocks that automatically keep track of the date and time even when the computer is turned off.

Your computer may be set up so that it does not automatically display the DATE and TIME commands when you boot up. If this is the case, you can enter these commands at the system prompt C> or A>.

**NOTE:** If DOS displays the correct date when you turn it on (or when you enter the DATE command), your computer has an internal clock. It will keep track of the time and date by itself as long as its battery lasts (usually two years).

## Current Drive

When your system has been started up, the appearance of the DOS prompt tells you that the system is waiting for your commands. The DOS prompt can be an A>, B> or a C> symbol, depending on which drive is active. You select the current active drive. The current drive is the one DOS will automatically use unless you specify a different drive. The current drive is sometimes called the "default drive". To select the current drive you type the drive letter followed by a colon (:). To change the active drive from C> to A> do this....

\*            type:            A:  
\*            press the < <enter> > key

C>A:

A>

## Cursor

The blinking mark is called the cursor. As you type, the cursor marks your position on the screen. The shape and size of the cursor you see may vary depending on your computer or the software you have loaded.

## DISPLAY THE DIRECTORY

Computers are used in many ways, yet all applications are similar in one important way. They all use files to store information. Files can be created and saved on diskettes. A file is a collection of information stored by the computer under a single name. Some examples of files are a letter, a spreadsheet, or the names and addresses in a mailing list.

Information on a diskette is stored in files. A diskette can store many files. DOS commands can be used to manage the files on a diskette. A list of files on a diskette is similar to the table of contents for a book. Let's take a look at a list of files on a sample diskette. To tell DOS to list the directory of the files on the hard disk in drive C. We can use the DIR for command to do this. To use this command...

\*            Type Dir  
\*            Press the < <enter> > key

C>DIR

Volume in drive A has no label  
Directory of A:\

COMMAND	COM	23791	1-30-89	12:00p
CHKDKS	COM	9832	1-30-89	12:00p
DISKCOMP	COM	5792	1-30-89	12:00p
DISKCOPY	COM	6224	1-30-89	12:00p
FORMAT	COM	11135	1-30-89	12:00p
SYS	COM	4620	1-30-89	12:00p
EDLIN	COM	7508	1-30-89	12:00p
PRINT	COM	8976	1-30-89	12:00p

8 File(s) 121504 bytes free

**NOTE:** Your command should look like this: C>dir or C>DIR. You can use upper-case or lower-case letters. Your computer will understand both as part of a command.

## The Directory Display

The sample directory displayed above lists four columns of information, each a different type of information about the files on the diskette. This sample directory is provided so that we can practice DOS commands. Some of the DOS commands are stored as files on the system diskette.

### **COLUMN**

- 1 The first column contains the names of the files. It includes such names as COMMAND, CHKDSK, and FORMAT. Each file must have a name. A filename can be up to eight characters long.
- 2 The second column contains file extensions. An extension is an optional part of the filename. Extensions can be used to identify different types of files. We will learn more about different types of files later.
- 3 The third column shows the size of each file. The information in this column can be used to measure the amount of disk space used by each file, measured in bytes. You will learn more about bytes later.
- 4&5 The last two columns contain the date and time each file was created or last updated. This information is accurate only if the system date and time were correct when the file was created or last updated. For this reason, most people enter the correct system date and time at the beginning of each computer session.

Notice the last line of information in the directory. It tells you the number of files and the amount of available space on the diskette. The space on the diskette, and in your computer's memory, and in each file is measured in "bytes". A byte holds a single character or computer instruction.

If there are too many files to fit on one screen the top files were scrolled off the screen, one at a time, to make room for the bottom ones. You may have noticed the C> prompt. This prompt reminds us that drive C is the default drive and that DOS is waiting for us to enter a command. Since there may be a large number of files on drive C, all the filenames cannot be displayed on one screen. DOS's DIR command has some options that enable us to display a long list of filenames in a more readable way.

**/P** The /P option tells DOS to display the directory one screen or page at a time. If there are more filenames than can be displayed on one screen you notice a message, "Strike a key when ready..." under the last filename. To display the next screen simply press any key and the next page will be displayed. You will repeat this process until all the filenames have been displayed and the C> prompt has returned. Whenever DOS displays the system prompt, it means that it has finished responding to our last command and is waiting for us to tell it what to do next. To use the /P option....

- \* **TYPE: DIR/P**
- \* **Press the <enter> key**

**C>DIR/P**

**/W** DIR has another option that can be used for displaying long directories of filenames this is the /W option. The Dir command can be used with the /W option to display a "wide" directory of files. This option displays only the names of the files in multiple columns that cover the full width of the screen. The wide directory list omits the information about file size, date and time, in order to fit the list of filenames on one screen. To use this option....

- \* **Type DIR/W**
- \* **Press the <enter> key**

**filename** The DIR command can help us see whether such a file exists on our disk. There will be occasions when you'll want to look for a specific file in a long directory. A quick way to do this is to use the DIR command together with the name of the file in you are looking for. To look for the file called LABEL.COM. To do this...

- \* **Type DIR LABEL.COM**
- \* **Press the <enter> key**

**C>DIR LABEL.COM**

Volume in drive C has no label  
Directory of C:\

**LABEL COM 2377 03-17-89 12:00p**  
**1 File(s) 5115904 bytes free**

**C>**

## REVIEW

In this lesson you have learned how to use the DIR command to:

- \* Display the directory of files on disks in different drives
- \* Pause after each screen of a long directory
- \* List filenames horizontally
- \* Look for a specific file in a long directory



## Additional Information on Files

### File

A file is a collection of related information stored by the computer under a single name. Information on a disk is organized into files. This is similar to the way a filing cabinet is organized by file folders. To work with a file, we have to tell DOS the name of the file. We may need to identify the name of the drive containing the hard disk or floppy diskette on which the file stored. If we do not include the drive name, DOS assumes that the file is stored on the hard disk or the floppy diskette in the current drive.

### Filename

Each file needs a unique name for identification. A filename has two parts, the name and an extension. The name can consist of one to eight characters. The extension, which is optional, can consist of one to three characters. An extension is separated from the name by a period.

**Example: SPECS2.DOC**

Only certain characters are permitted in filenames and extensions.

A filename may contain:

A through Z

Zero through nine

( ) ~ ' - \_ { }

It may NOT contain:

A blank space

+ = # \ / ? < >

[ ] . : ; " \*

The simplest procedure is simply to stick to letters and numbers, plus perhaps the underscore (\_) or the hyphen (-). This gives you millions of combinations, which should be enough.

The second part of a filename, its extension, is optional. It can consist of one to three characters. If you use an extension, it must be separated from the filename by a period. Extensions can be used to distinguish between different types of files. If the file is stored on a diskette in another drive, we need to precede the filename by the drive name. A drive name consists of a letter and a colon, "A:" or "C:", for example. A filename together with the name of a drive is called a "filespec", short for file specification. C:FORMAT.COM is an example of a filespec.

**HINT:** It is a good practice to name the file so you can remember what it contains. You might remember that XYZ123 contains the letter to your landlord but three months from now a name of LANDLORD.LTR might be easier to find!

## DOS INTERNAL AND EXTERNAL COMMANDS

### DOS Commands

DOS commands are computer programs stored on a diskette or in the memory of your computer. There are two types of DOS commands, internal and external.

#### Internal Commands

Internal, or resident, commands are part of a file called COMMAND.COM, which is loaded into the computer's memory when DOS is first started up. You can use the internal commands from any drive even if the DOS diskette is not in your computer. Because internal commands are in the memory of the computer, they are not listed in the directory of a diskette. Some of the internal commands are DIR, COPY, RENAME, and TYPE.

#### External Commands

External, or transient, commands are stored on a diskette as program files. These files have COM, EXE, or BAT extensions. Unlike internal commands, external commands are listed in the directory of a diskette. To use the external commands, the DOS diskette must be in your computer or they must be on your hard drive. Some examples of external commands are FORMAT, DISKCOPY, CHKDSK, and TREE. When DOS is in the active drive, you can use the command without specifying the drive. However, if DOS is not in the active drive, the name of the drive that contains DOS must be specified.

## PREPARE A DISKETTE

Floppy diskettes are made for various kinds of personal computers. Before a diskette can be used for a specific type computer, like the IBM PC, it must be prepared. We can prepare a diskette by using a DOS command called FORMAT. The FORMAT command "initializes" a diskette so that your computer can both write information on it and read information from it. FORMAT is an external DOS command.

**IMPORTANT HINT:** If you notice the C> prompt on the screen. Drive C is the current drive. DOS is waiting for us to give it a command. If we do not specify a drive, DOS would assume that we wanted to format the diskette in the default drive. Right now, the default drive is drive C, the hard disk drive. **Formatting a diskette DESTROYS all the information stored on it.** Formatting your default drive C, would destroy all the information on it, including all the DOS commands. For this reason, you should always specify the drive that contains the diskette to be formatted.

To format a diskette in drive A: we can use the FORMAT command and the name of the drive, A. To tell DOS to format the diskette in drive A.....

\*       Type   FORMAT A:  
\*       Press the <<enter>> key

C>FORMAT A:  
Insert new diskette for drive A:  
and strike ENTER when ready

DOS will remind us to place the diskette to be formatted in drive A. This is our last chance to make sure that we have not inserted a diskette with information we want to keep. When the diskette is in drive A....

- \* Press the <<enter>> key

**C>FORMAT A:**  
Insert new diskette for drive A:  
and strike ENTER when ready

**Format Complete**

362496 bytes total disk space  
362496 bytes available on disk

**Format another (Y/N)?**

DOS tells that the diskette has been formatted then DOS asks whether we wish to format another diskette. To do this we would remove the diskette that has already been formatted and replace it with a second diskette. To end the Format command...

- \* Type N
- \* Press the <<enter>> key

### Placing the Operating System on a Diskette

The FORMAT command has an option, /S, that can be used to place a copy of DOS onto the diskette as it is formatted. The /S tells DOS to put the DOS COMMAND.COM and other special files on the newly formatted diskette. To execute the command...

- \* TYPE: FORMAT A: /S
- \* Press the <<enter>> key

**Format another (Y/N)?N**  
**C>FORMAT A:/S**  
Insert new diskette for drive A:  
and strike ENTER when ready

This message reminds you to place the diskette to be formatted in drive A. Remember that formatting a diskette will erase all the information stored on it. To begin the formatting process...

- \* Press the <<enter>> key

**Format Complete**  
**System Transferred**

362496 bytes total disk space  
40960 bytes used by system  
321536 bytes available on disk

**Format another (Y/N)?N**

**C>**