MICROCOMPUTER ACTIVITIES for Office Procedures

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Preface

You are on your way to becoming a competent user of a microcomputer in an office setting. Practical hands-on experience is the key to becoming knowledgeable and proficient in using a microcomputer. The material in this text-workbook is oriented toward this goal. Using a microcomputer will help you to perform a task you have been doing manually in an easier and much more efficient manner. This textbook has been written for use with the Apple® II Plus, Apple® IIe[1], and the Radio Shack TRS-80 Model III and Model 4[2] microcomputers with 48K minimum.

Beginning with simple office procedures, you will quickly progress to the more complex ones. Each procedure will involve you in data entry, processing, storage, retrieval, and distribution. There is also a section on using a microcomputer to perform basic mathematical func... When you complete this text-workbook you will be in the ...osition of having learned how to use a microcomputer in an ...ng.

[1]Apple® II Plus, Apple® IIe, and Applesoft are trademarks of the Apple Computer Corporation. Any reference to Apple II Plus, Apple IIe, or Applesoft refers to this footnote.

[2]TRS-80™ is a trademark of the Radio Shack Division of Tandy Corporation. Any reference to the TRS-80 or the Radio Shack Microcomputer refers to this footnote.

Contents

ACTIVITY 1.
Getting to Know Your Computer

• LEARNING OBJECTIVES •

At the end of this activity you should be able to:

1. *Recognize and name the components of a microcomputer system.*
2. *Recognize the differences between your microcomputer keyboard and a typewriter keyboard.*
3. *Understand how to take proper care of a diskette.*
4. *Insert a diskette in a disk drive.*
5. *Sign-on your microcomputer.*
6. *Sign-off your microcomputer.*

This activity will help you recognize the Apple II Plus, Apple IIe, TRS-80 Model III, and TRS-80 Model 4 microcomputers and understand some of the differences among them. Methods of caring for and using a diskette are discussed. In addition, you will learn the basic steps in signing-on and signing-off your microcomputer. The following photographs show two microcomputers—an Apple IIe and a TRS-80 Model 4.

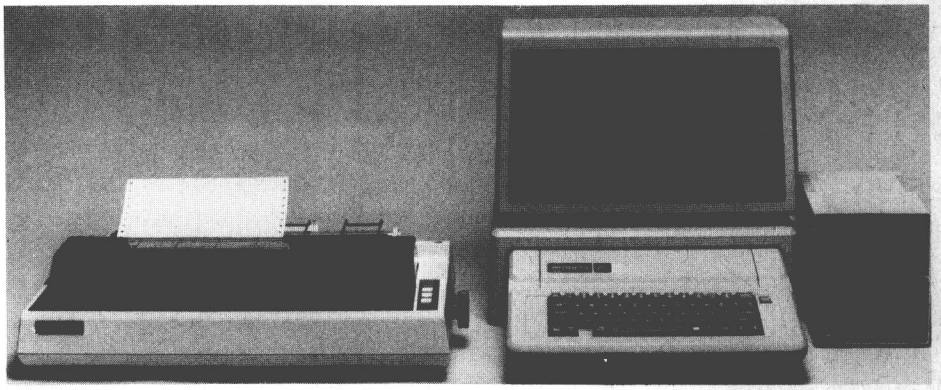

Figure 1-1. The Apple IIe Microcomputer

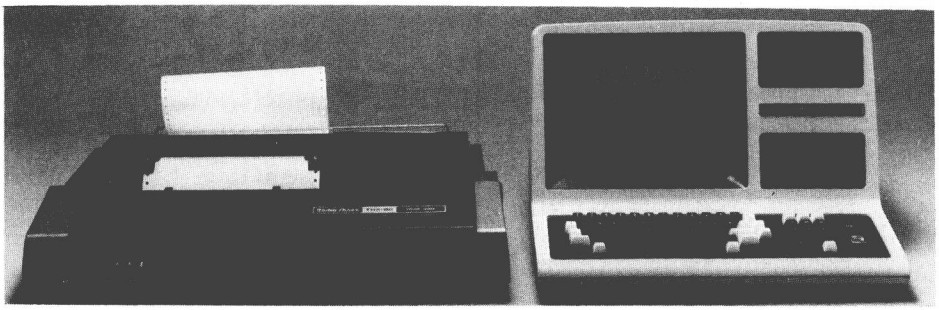

Figure 1-2. The TRS-80 Model 4 Microcomputer

You will be able to complete the microcomputer activities in this workbook using any one of these microcomputers. First get to know the components of your microcomputer. Notice each microcomputer system has four similar components:

1. An alphanumeric keyboard
2. A display screen
3. One or more disk drives
4. A printer

Communicating With Your Microcomputer

You should be familiar with a microcomputer keyboard. It is similar to that of a typewriter. However, you will find a few differences between the microcomputer and the typewriter keyboards. They each have some special function keys that are not found on the other.

Figure 1-3. Apple IIe Keyboard

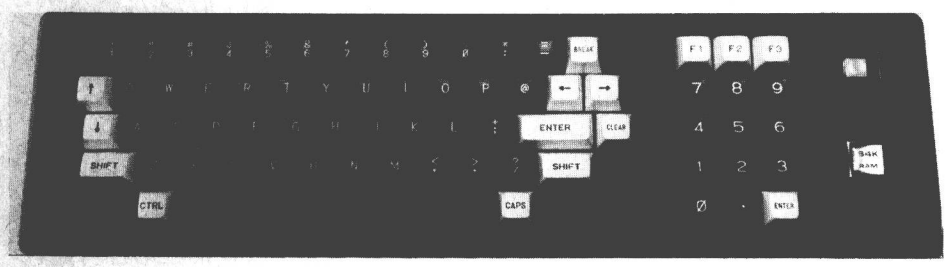

Figure 1-4. TRS-80 Model 4 Keyboard

The TRS-80 Model III and Model 4 have a 12-key pad for convenient numeric entry. Each key on the 12-key pad is the equivalent of the matching key on the keyboard.

In completing these workbook activities, you will need to key-enter only uppercase letters. Use one of the following applicable procedures to make sure you are using only uppercase letters for your microcomputer. The Apple II Plus can enter only uppercase letters. If you are using an Apple IIe, press the CAPS LOCK key until it clicks into its down position. If you are using a TRS-80, when you turn on the microcomputer the keyboard is in the uppercase letter mode.

Depressing a key produces an electronic signal the microcomputer can understand. The computer responds by sending back signals which are transformed into characters (letters, numbers, & symbols) on a display screen and/or on paper if a printer is being used.

Display Screens

Display screens are known by more than one name. Some prefer to call the screen a VDT — Video Display Terminal. Others may call it a CRT — Cathode Ray Tube. At other times, the display screen may be referred to as a monitor. In any case, it does resemble the familiar television screen.

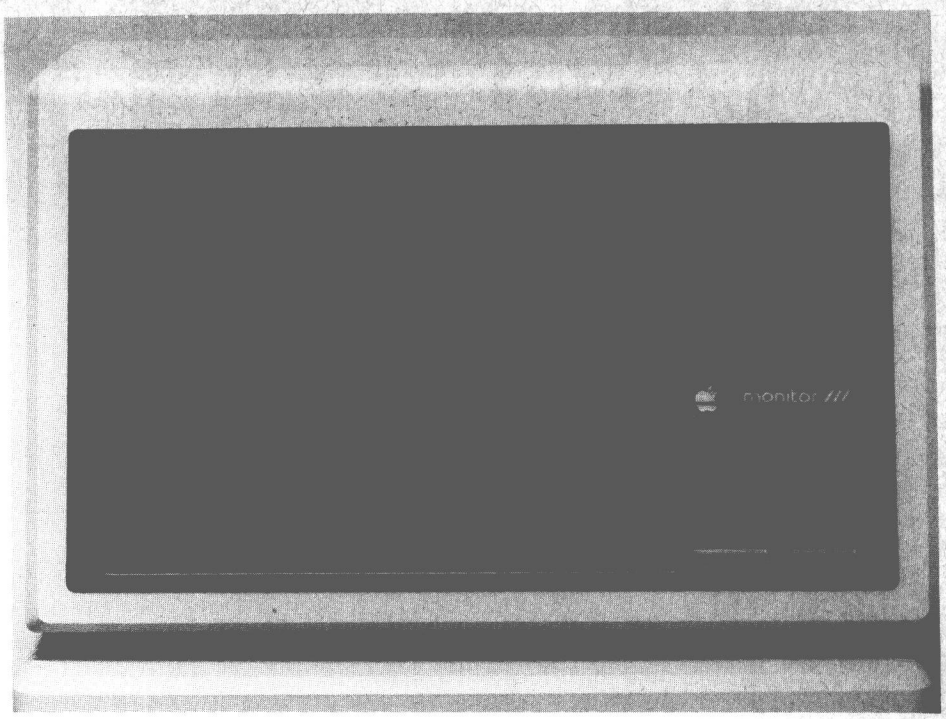

Figure 1-5. Apple IIe Display Screen

Secondary Storage Media—The Diskette

A **diskette**, or floppy disk as it is sometimes called, is a storage medium similar to a recording tape. The plastic diskette is covered with a thin magnetic coating. Data is stored as tiny magnetized spots on the diskette. The diskette is then enclosed in a cover for protection.

Taking Proper Care of a Diskette

Since data storage is completed through a magnetic media, the following can damage data on a floppy disk.

SKIN OILS AND STICKY FINGERS. Always handle a diskette by its jacket and label. Avoid touching the brown or grey exposed surface of the diskette itself that is not protected.

WRITING ON THE DISKETTE COVER. If you have to write on the diskette label or cover use a soft felt-tip pen. Do not write on the label with a ball-point pen or pencil. It is better to write on a label before you attach it to a floppy disk. Do not attach labels to the diskette with a paper clip.

MAGNETIC FIELDS AND X-RAYS. Data on a diskette can be damaged by x-rays. Although you probably would not take floppy disks into the dentist's office, you should remember to have them examined visually rather than have them passed through the x-ray scanner at airport security checkpoints. Also, keep diskettes away from motors, telephones, and television sets. They produce magnetic fields which can damage data stored on a diskette.

SMOKE AND EXTREME TEMPERATURES. Diskettes are affected by extreme temperatures of heat and cold. Store them away from direct sunlight. Avoid letting dust, dirt, or cigarette smoke and ash come into contact with the diskette.

Figure 1-6. An Example of a Diskette

When you are not using a diskette, keep it stored upright in its envelope. Finally, remember the data processing adage — *Do Not Bend, Staple, or Mutilate* also applies to floppy disks. Handle diskettes with tender loving care.

Data Storage Capacity of a Diskette

The storage capacity of a floppy disk is tremendous. It can hold over one million bits of data. The terms "bit", "byte", and "K" are used to describe data storage. Let's define each so that you will have a better grasp of the data storage capacity of a diskette.

The smallest unit of data is called a **bit** — *b*inary dig*it*. A bit can be either a 0 or a 1. This means very little until you realize that a group of eight bits make up a **byte** — a letter of the alphabet, a digit, or a special character. Bytes are grouped together to form words such as the word computer. Thus, the eight letter word "computer" is made up of eight bytes and 64 bits.

The symbol "**K**" stands for kilo — meaning one thousand. In computer usage "K" represents 1024 bytes. The internal storage capacity of microcomputers is often identified by such terms as 48K and 64K. The storage capacity of a diskette is 160K or more.

Printers

A printer will print data from the microcomputer on paper in addition to having it displayed on the screen. A computer printout is also referred to as **hard copy.**

There are several types of printers. A **dot matrix** printer is a high speed printer which prints letters by means of tiny pin points or dots striking the paper. These dots are printed according to a predesigned matrix or grid. Each letter is a unique arrangement of dots. **Letter quality** printers are generally much slower than dot matrix but the print looks as if it were done on a high quality typewriter. A daisy wheel printer is one example of a letter quality printer. Every character is contained on an individual petal of a revolving disc or printing wheel. Each character is printed by making an individual impact on the paper. Different type styles can be obtained by changing the disk or daisy wheel. A **thermal** printer is a slower printer which burns characters onto a special paper. The characters are a grid or matrix of dots.

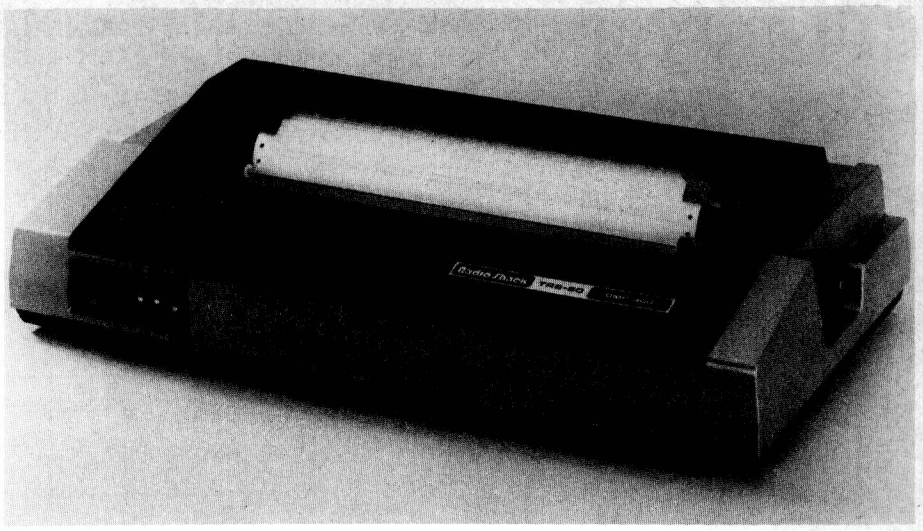

Figure 1-7. A Dot-Matrix Printer

If you have a printer you will want to use it to print out some of your data. Regardless of the type of printer that you have, you need only be concerned that it is properly connected to your microcomputer.

Operating Your Microcomputer

The procedure you need to follow to sign-on (turn on) your microcomputer, operate it, and sign-off (turn off) will vary with the brand of microcomputer you are using. Locate the section that relates to your microcomputer and follow those instructions.

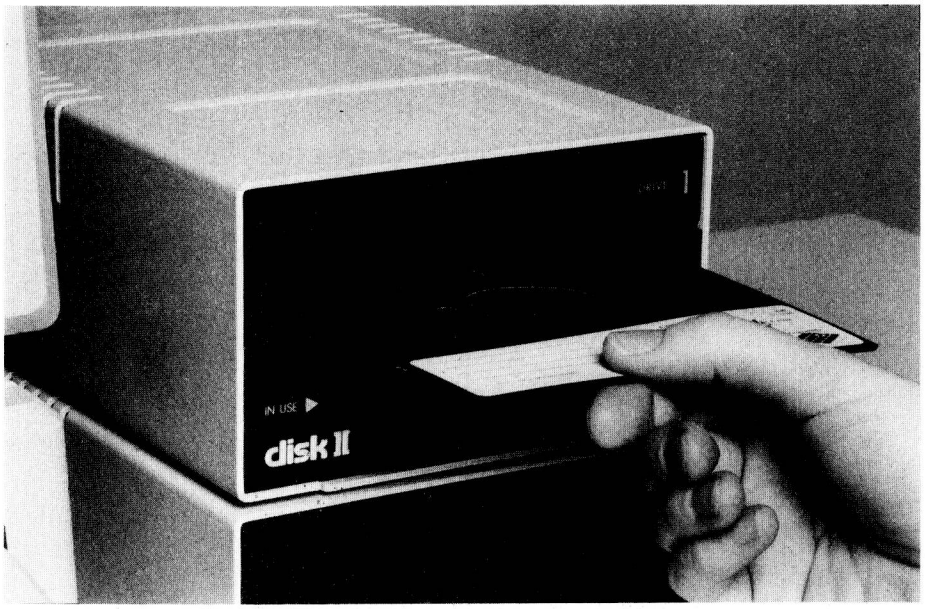

Figure 1-8. Inserting a Diskette Into the Disk Drive

Apple II Plus and Apple IIe Sign-On Procedure

1. Turn on the video display terminal (VDT).
2. Open the door to Drive 1. If your microcomputer has more than one disk drive be sure you open the door to Drive 1.
3. Be sure the large hub access hole is centered in the square diskette cover.
4. With your thumb covering the diskette label, carefully insert the diskette with the label upwards—the label will enter the drive last.

5. Gently close the disk drive door. The read/write head is lowered when the door is down and is raised when the door is open. Never remove a diskette when the red *in use* light is on.
6. Turn on the Apple microcomputer. Reach to the back, left side of the computer and turn the switch on. Turning on the microcomputer will give the following results. On the microcomputer, the power light will illuminate. On the disk drive, the red *in use* light will come on and a soft whirring sound will come from the disk drive. After a few seconds, you should see the title display as shown in Figure 1-9.

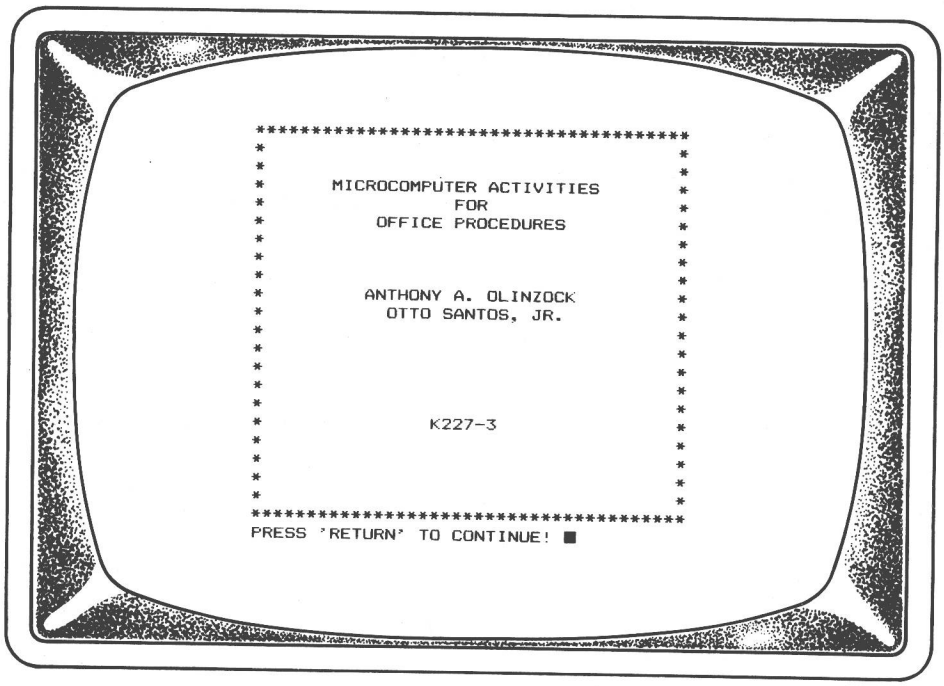

Figure 1-9. The Apple Microcomputer Title Display

TRS-80 Model III and Model 4 Sign-On Procedure

1. Turn on the microcomputer using the power switch which is located underneath the right edge of the microcomputer. The disk drive will run for a few seconds and the red *in use* light will come on. Wait until the disk drive motor stops and the red light goes off.
2. Open the door of the lower disk drive.
3. Be sure that the large hub access hole is centered in the square diskette cover.
4. With your thumb covering the diskette label, carefully insert the diskette with the label upwards—the label will enter the drive last.
5. Close the disk drive door. The read/write head is lowered when the door is down and is raised when the door is open. Never remove a diskette when the red *in use* light is on.
6. Press the orange reset button on the right side of the microcomputer keyboard. The disk drive will run for a few seconds.
7. Enter the date in the format required.
8. Press ENTER when asked to enter the time. After a few seconds you will see the opening title display screen as shown in Figure 1-11.

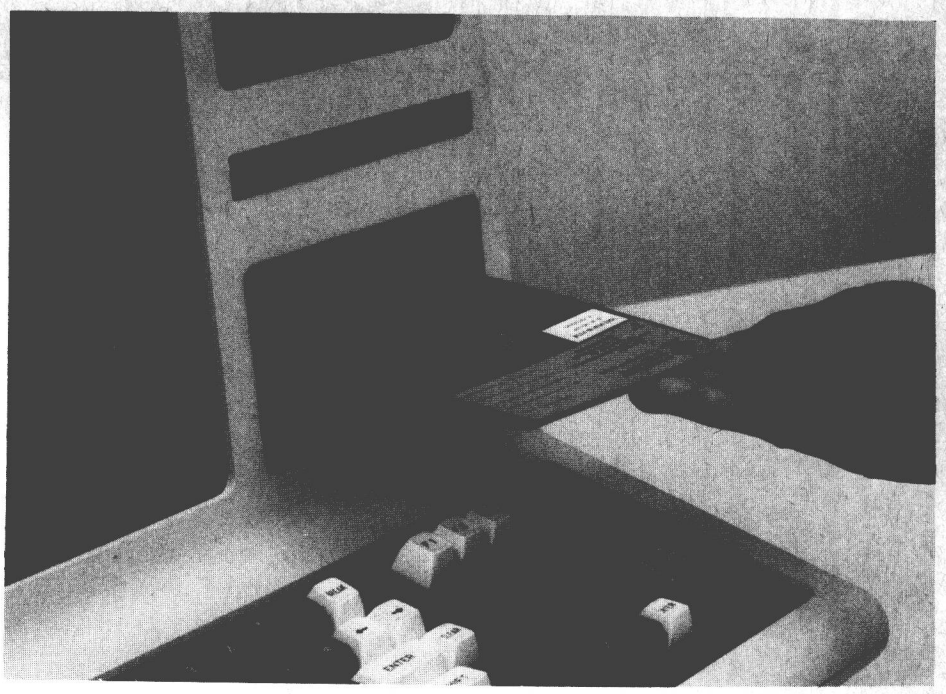

Figure 1-10. Inserting a Diskette Into the Disk Drive

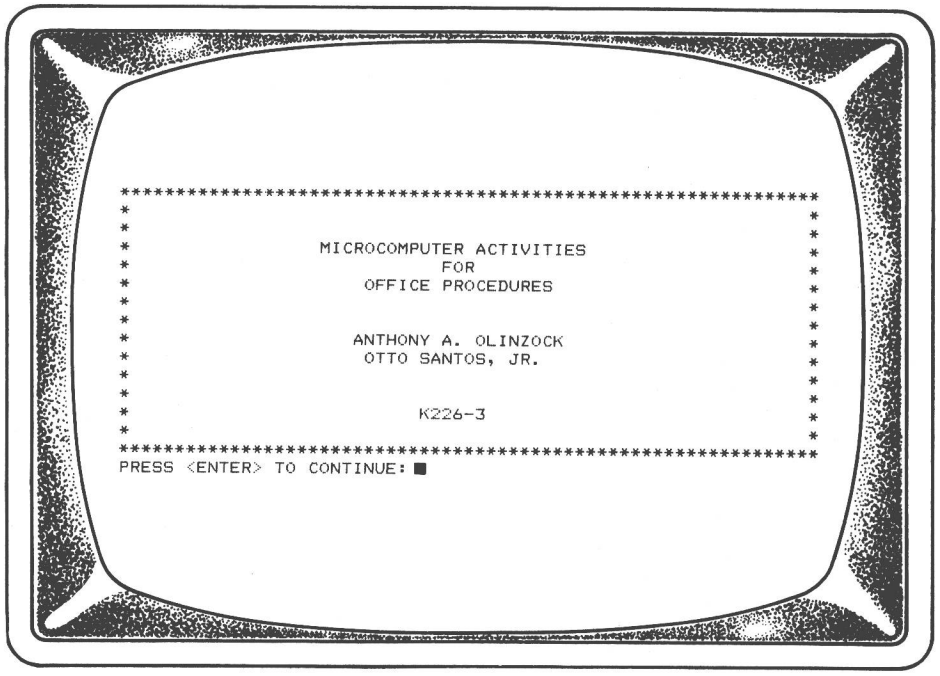

Figure 1-11. The TRS-80 Microcomputer Title Display

A Review of the Sign-On Procedure

The steps you have just completed are required every time you begin working with your microcomputer. To review:

For the Apple II Plus and Apple IIe—

1. Turn on the VDT.
2. Open the door to Drive 1.
3. Center the diskette in its jacket cover.
4. Insert the diskette.
5. Close the disk drive door.
6. Turn on the microcomputer.

For the TRS-80 Model III and Model 4—

1. Turn on the microcomputer.
2. Open the lower disk drive door.
3. Center the diskette in its jacket cover.
4. Insert the diskette.
5. Close the disk drive door.
6. Press the orange reset button.
7. Key-enter the date.
8. Press ENTER when asked to enter the time.

As soon as you have signed-on, check your VDT for any needed adjustments in brightness and contrast.

Sign-Off Procedure for Your Microcomputer

To sign-off, follow these steps for both the Apple and the TRS-80 microcomputers.

1. Be sure that the red *in use* light on the disk drive is off.
2. Open the door to the disk drive and remove the diskette.
3. Insert the diskette in its protective cover.
4. Turn off the power to all microcomputer components.

These steps are required every time you stop working with your microcomputer.

Opening Display Screens for Apple and TRS-80

Immediately upon signing on, the display screens shown in Figures 1-9 and 1-11 should appear on your VDT (refer back to these illustrations, if necessary). Note the instruction PRESS RETURN/ENTER TO CONTINUE being displayed on your VDT screen. You will see this instruction many times throughout this program. In this text the two words "return" and "enter" have been combined into "RETURN/ENTER." The RETURN key is used by the Apple and the ENTER key is used by the TRS-80. Both keys perform the same function. When you are through key-entering data or giving a command to your microcomputer, press RETURN/ENTER. This will move the cursor to the beginning of the next line or cause the computer to execute a command. Pressing this key is similar to using the carriage return key on a typewriter.

One additional point to remember: if you make a mistake while key-entering and discover the error before you press RETURN/ENTER, you can use the left arrow (←) key to backspace and then strike over the error. However, if you make a mistake and press RETURN/ENTER you will have to key-enter the entire correct response. You will get a chance to see how these error routines work as you complete the activities.

Press RETURN/ENTER to proceed through the opening copyright screens until the Master Menu of Activities appears (see Figure 1-12). A menu is a list of options from which you must make a choice or selection. Throughout this program you will return to the Master Menu of Activities many times.

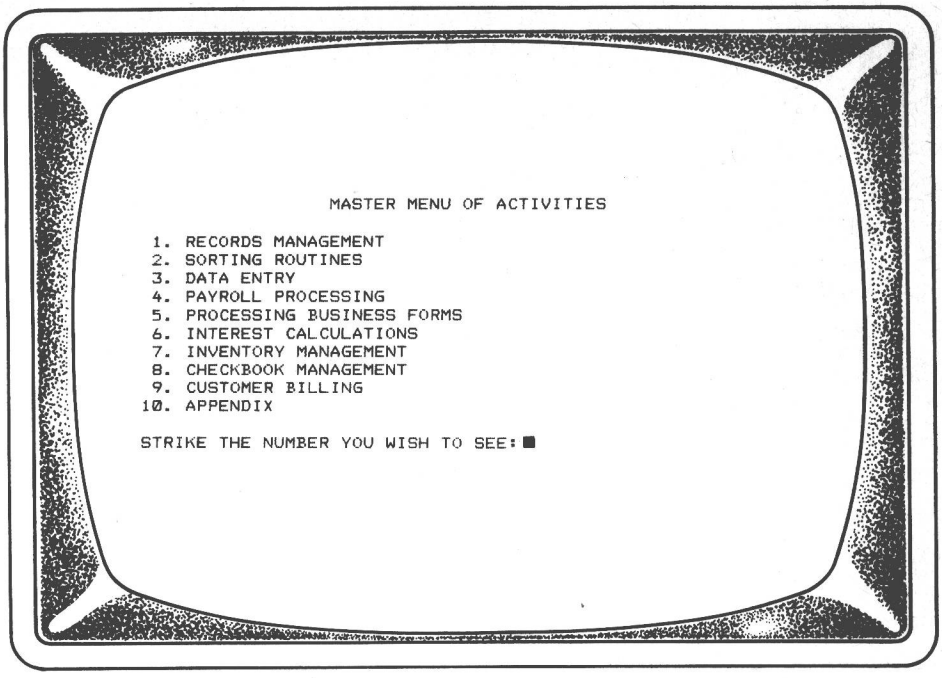

Figure 1-12. Master Menu of Activities

Printouts

When you make a menu selection that involves a file on the diskette, a screen display will ask you if you want to print the file. Strike "Y" (for yes) to print or "N" (for no) to display the file. The following illustration shows this message:

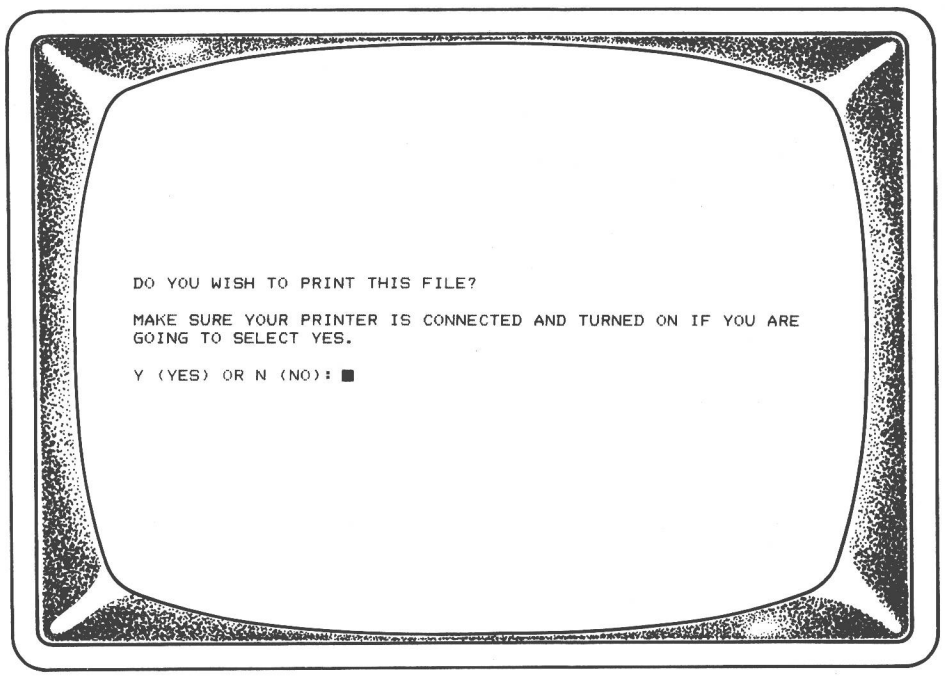

Figure 1-13. The Print File Message

All of the files can be displayed on the screen by striking "N". Most of the files can be printed, if you have a printer. Check with your instructor to see if you need to print any of the files. Since you do not

need to print files to complete the activities in this workbook, you will probably answer "N" to the question whenever it occurs.

When "N" is chosen, there will be some differences between displays — depending on the microcomputer used. Note the difference between the Apple and TRS-80 displays as shown in Figures 1-14 and 1-15. The amount of data shown on your screen will depend on the type of microcomputer you are using. The Apple has more lines available for display on one screen than the TRS-80. From this point on, when the amount of data to be shown varies, only a partial screen display will be illustrated in the workbook.

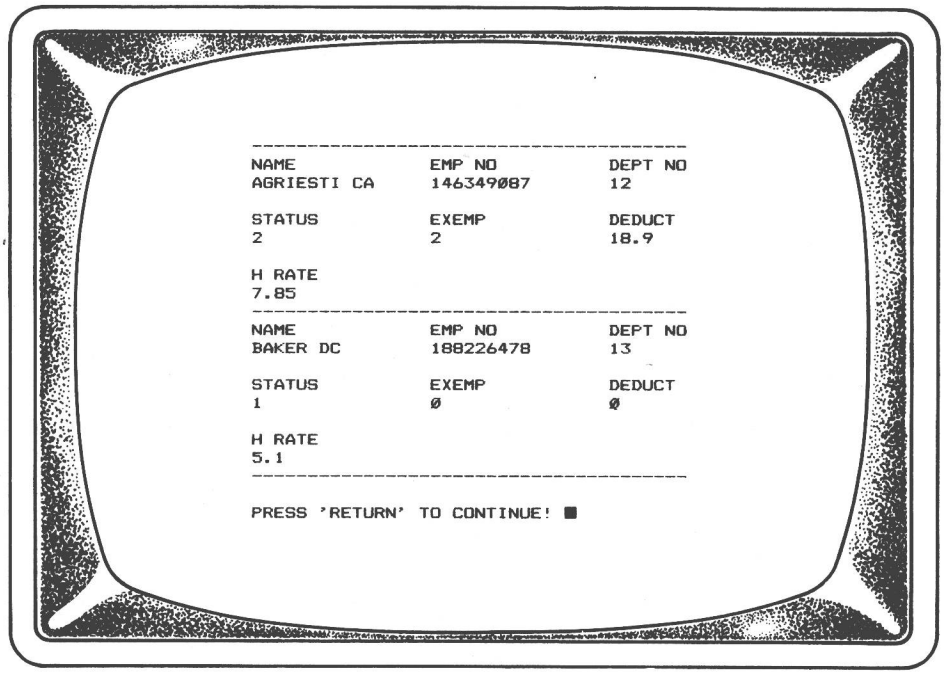

Figure 1-14. Sample Apple Display

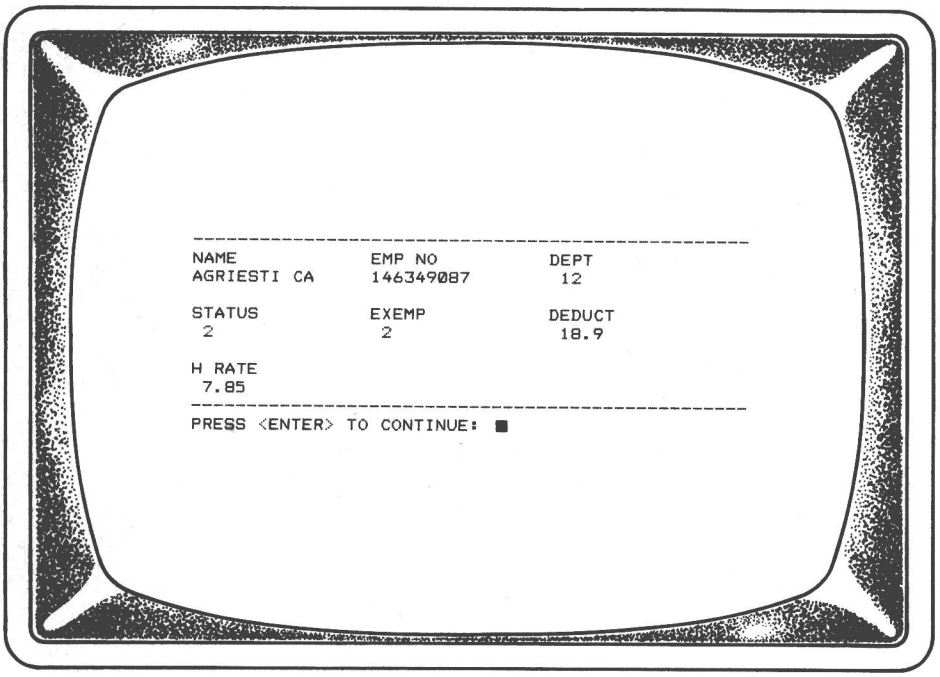

Figure 1-15. Sample TRS-80 Display

Using a Printer

Should you wish to print a file, you *must* be sure that your printer is on when you respond to the question, DO YOU WISH TO PRINT THIS FILE? With the printer on and properly connected to your microcomputer, respond by striking Y and pressing RETURN/ENTER. After the data has been printed, you can continue with your assignments. Should you respond Y to the question and the printer is off, the screen will go blank. If you wish to print, turn on the printer immediately. If you have no printer, you have entered a false message and will not be able to continue. Turn off your microcomputer. You must now perform the sign-on procedure to continue with your assignment.

End-of-File Messages

Several activities in this text will require you to view a file on your VDT. After you have viewed a particular file, one of two end-of-file messages will appear on your screen (see Figures 1-16 and 1-17). One end-of-file message, A, will request a Y or N response from you. If you strike Y, this will allow you to view the file again. If you strike N, you will be returned to the file menu. The other end-of-file message, B, requires that you only press RETURN/ENTER. This will automatically return you to the file menu.

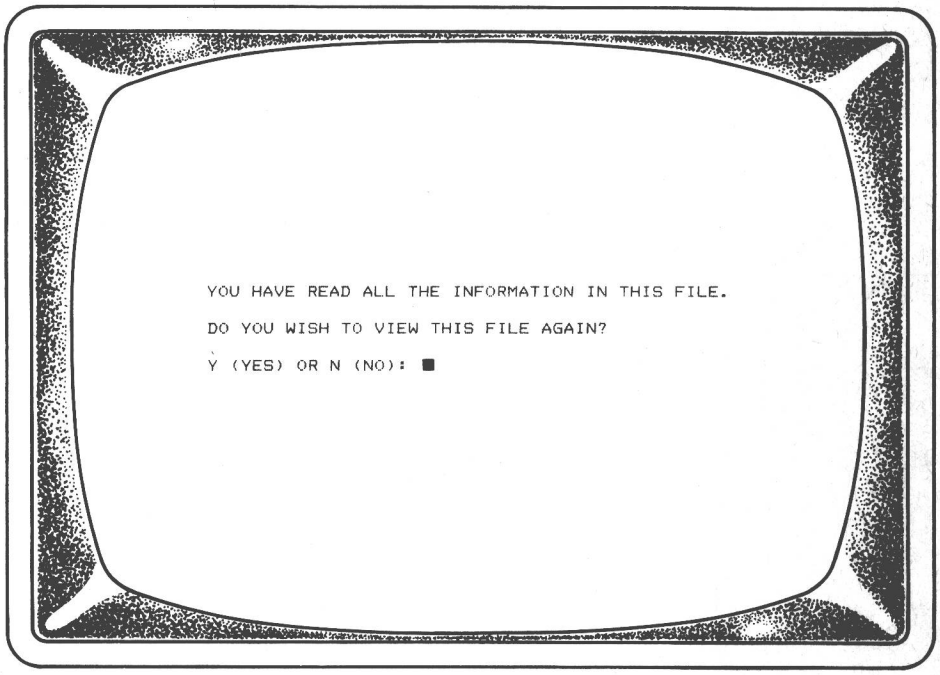

Figure 1-16. End-of-File Message A

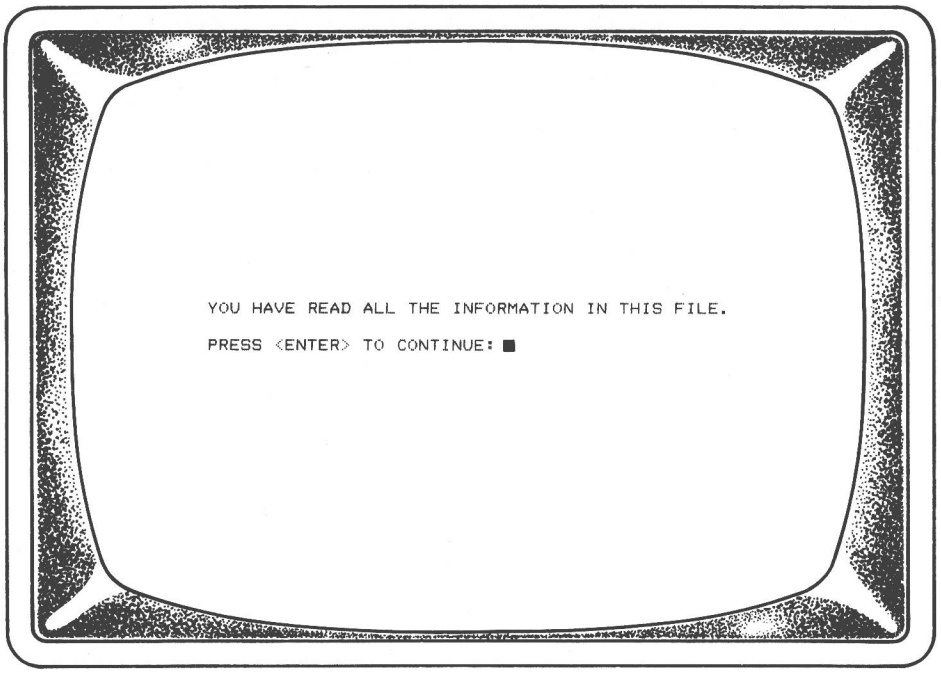

Figure 1-17 End-of-File Message B

Before you begin to complete the activities that follow in this workbook, complete the Activity 1 Study Guide which follows. Then carefully remove it and hand it to your instructor for correcting.