Introduce me to my Macintosh

Jennifer Callacott

University of Wollongong, uow_callacottj@uow.edu.au

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INTRODUCE ME TO MY MACINTOSH

Jennifer Callacott

Department of Computing Science
University of Wollongong

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P.O. Box 1144, WOLLONGONG N.S.W. 2500, AUSTRALIA
tel (042)-270-859
telex AA29022
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Summary

The Computing Science Department at The University of Wollongong has the first Apple Macintosh Laboratory in Australia. This laboratory is used for the practical teaching of first year computing science students. This report is an introduction to the Apple Macintosh computer for first year students.

In first year, the student needs to know how to operate the Macintosh computer, how to create text documents and also, how to create and execute Pascal programs. This report does not teach the Pascal language, but it does instruct the student how to accomplish each of the above tasks.

The hardware of the Macintosh Computer System is explained along with the desktop concept of the Mac’s operating system. A Macwrite application is outlined and the Macintosh Pascal environment is described.

Although this report assumes the student has no previous knowledge of a computer, it leaves a few concepts and functions undescribed to allow the student to experiment with and discover the Mac.

After a thorough reading of these notes and practical hands on sessions, the student should be quite familiar and at ease with the Mac machine. Macwriting, Macpascaling and just plain Macoperating become easy and exciting to employ.
Introduction

This report is divided into four sessions. Session One outlines the Macintosh hardware. Session two outlines the operating environment of the Mac. Session three describes the Macwrite software application function. Session four introduces the Macintosh Pascal environment for the creation and execution of Pascal programs. Objectives for each session are described at the beginning of each session. Operations, commands and functions are printed in a different type style so that they are easily read and noticed. The report is fashioned such that the student must begin at the beginning and build upon the skills he learns until the end is reached. Further experimentation with functions not described here is expected to be discovered by the student. The Macintosh machine has many other amazing capabilities other than those described here. Documentation obtained from Apple Computer Ltd. will explain these functions adequately if there is a desire to learn more.
SESSION 1: Familiarize Yourself With the System.

Objectives: To gain a familiarity with the hardware of the Macintosh machine, to understand the concept of the Macintosh desktop and gain intimacy with the mouse and its commands.

1. What Hardware Constitutes the Macintosh Package?

The Macintosh package consists of five main components:

1. Macintosh Terminal
2. Macintosh Keyboard
3. Macintosh Mouse
4. Macintosh Imagewriter Printer
5. Macintosh Disks.

The Mac Terminal is the largest of the five components and weighs approximately 9 lbs. The terminal has a visual display screen. There is a disk drive on the right hand side of the terminal underneath the screen. There is also a button for screen brightness adjustment on the left hand side of the terminal underneath the coloured Apple symbol.

Diagram 1: The Macintosh Terminal.
The Mac Keyboard looks like the usual typewriter keyboard with a few exceptions. The "caps lock" key allows the typing of all alphabetic characters in upper case, (ie. capital letters), while all other keys still strike their lower symbol. The "shift" key allows the same action as the "caps lock" key for all keys of the keyboard so that upper symbols are obtained on the non-alphabetic keys. The "option" key allows access to a fourth character set involving Greek symbols, mathematical symbols, copyright and trademark symbols and a few other miscellaneous symbols. See Appendix A for a display of the character sets available. The "backspace" key will erase any mistakes made character by character. The funny key with the fan symbol on it is the command key.

This command key, pressed in combination with some other key, replaces the use of the mouse for frequently used commands.

The Mac mouse contains a ball on its underside. This ball allows for easy movement of the mouse around the desk surface. The ball may also be removed for cleaning, however, without the ball in the mouse, the mouse is useless. Also on the mouse top is a button. There is only one button on the mouse so a wrong button can never be pressed. The mouse is small enough to fit into the palm of the hand with three fingers on the mouse button.

Diagram 2 : The Mac Mouse.
The Imagewriter printer is a small compact unit. To turn the printer on, turn on the power point and then press the on/off button. The green light should light up. Press the "select" button and its green light should also light up. The paper can be advanced by hand with the larger roller knob on the right hand side of the printer which works similar to rolling paper in a typewriter.

Diagram 3: Macintosh Printer.

The Macintosh uses small removable disks. These disks are encased in a hard plastic cover with a metal clasp covering the actual access hole to the fragile disk inside. There is a red button on one side of the disk which controls write protection, (i.e. one can secure the disk in such a way that one cannot write upon it but can only read from it). See Diagram 4 on the next page for an illustration of the Mac disk. Each disk has storage space for 380,000 characters.
Front Side:
- Arrow
- Label
- Write-Protect Tab

Silver metal spring loaded shutter.

Back Side:
- Label
- Silver Circular Disk protector.
- Write-Protect Tab

Diagram 4: The Mac Disks.
2. **The Idea of a Macintosh Desktop**

Every office is like to have:
- an office desk
- a filing cabinet
- file folders
- documents
- a trash can.

The office desk is used for the creation, compilation and utilization of documents. File folders and documents can be stored, moved about or rearranged according to the desire of the person sitting behind the desk. Notepads, scrapbooks and calculators are examples of accessories which are commonly found in offices.

When documents are removed from the desktop they can be placed in file folders which reside in the filing cabinet. When a document is no longer needed it can be tossed into the trash can and, providing the cleaning staff has not emptied the trash, if a change of mind occurs one can retrieve it.

The Apple Macintosh is designed with an office environment in mind. The Mac screen represents a flat working surface much like a physical desktop.

One can have many documents, file folders and desk accessories on the desktop at the same time. These can be rearranged and handled in a similar fashion to a manual desktop and one can toss documents into the trash and retrieve them just as in a physical office. One advantage of the Mac desktop over a real office is that nothing can fall off, behind, or under the desktop.

On the desktop of the Macintosh each object is represented by a small graphic picture called an icon.
3. **What is an Icon?**

An icon is a graphic, or pictorial, image that appears on the Mac display and represents an application, document, action, file or an entire disk. Icons also have a title that describes their contents, and this title can be changed at any time by the user. The icons seen most often are:

- Represents the Macintosh Machine itself.

- Represents a file folder containing a number of documents (files)

- Represents an application, which is a command to manipulate a document in some way.

- Represents a document, (which can be placed into a file folder).
4. How Do I Turn my Macintosh On?

The on/off switch is on the back of the Macintosh. Reach around the back and push the switch. A beep tone will be heard to indicate that the Mac is getting ready to be used. The centre of the screen will display a disk icon with a question mark in the disk centre. This means that the machine is ready and waiting for a disk to be entered.
5. I Want to Insert My Macintosh Disk!

Take a Macintosh MacWrite/MacPaint disk and look at it (see Diagram 4).

Looking at the disk from its backside we see the write-protect tab. When a hole is seen through the disk, the write-protect tab is set on. This means that no writing can be done to the disk, that is no changes or erasures may be made. The disk is available for reading only. When no hole is seen then the write-protect tab is not set and both reading and writing can be done on the disk. Slide the write-protect tab either up or down according to the desired state.

Now, turn the disk over and look at it from the front. There is an arrow in the top left hand corner. This arrow indicates the proper way to insert a Macintosh disk into the disk drive.

A Mac disk cannot be pulled out by hand. Brute force will damage the machine. One must coax the Mac to eject the disk on its own free will. If all else fails and the disk refuses to be ejected, place a finger on the mouse button and hold it down while turning the Mac off and back on again. Keep the mouse button down until the disk is ejected.

Insert the disk by pushing it all the way in, (the proper way that is!). The question mark in the centre disk icon disappears, the centre disk icon disappears and is replaced by a happy faced Macintosh machine icon. The Mac will whirr, display a welcoming message and then show the desktop on the screen. See Illustration of desktop on next page.

The sequence of actions from the on/off switch to the insertion of the disk is sometimes referred to as “bootstrapping the Macintosh” or a “boot up” for short.

6. The Macintosh Language.

One appreciated feature of the Mac is that there is no need to learn a foreign language to operate the computer. The Macintosh operates on movements of the mouse and depressions of the mouse button. The keyboard is mainly used only for text input.

On the desktop is an arrow icon. This arrow indicates the position of the cursor according to the movement of the mouse. With the palm of the hand holding the mouse, move the mouse around on the desk surface and get used to the relationship between the movement of the mouse and the arrow cursor on the screen.
Merely moving the mouse around does not disturb the Mac at all. It is impossible to move the arrow off of the desktop or to move the mouse too quickly. Lifting the mouse from the desk surface does not affect the arrow cursor on the screen. Thus, if the mouse is running into something and one still wants to keep moving the mouse in that direction, simply pick up the mouse and move him. When the mouse is set back down again the arrow will continue from the same position on the screen it was in before the mouse was picked up.

Diagram 6: The Desktop.
What is needed now is an understanding of the mouse commands. The following are mouse commands and a description of the action needed to carry out these commands.

**moving**
- place the palm of the hand over the mouse and push the mouse in any direction.

**pointing**
- move the mouse such that the point of the arrow cursor is touching, (actually sitting on), that which it is desired to be pointed at.

**pressing**
- push the mouse button down and hold it down.

**clicking**
- press the mouse button down and release it quickly.

**double-clicking**
- click the mouse button twice in quick succession.

**shift-clicking**
- hold the "shift" key on the keyboard down and click the mouse button.

**dragging**
- hold the mouse button down and move the mouse.

**selecting**
- point to the desired icon and click. When something is selected it appears in reverse video, (a black colour.)

7. I have Finished my Session!

At the end of a session, the disk should be ejected. One way to do this has already been discussed. Try it! **Hold** the mouse button down and turn the Mac off and back on again. Keep the mouse button depressed until the disk is ejected. After ejecting the disk, turn the Mac off and put the disk away.

You should now be able to:

1) Distinguish the hardware parts of a Macintosh.
2) Understand the desktop concept.
3) Know the six main icons.
4) Turn the Mac on, insert the disk, and eject the disk.
5) Know and carry out the mouse commands.
SESSION 2: Menus and Windows.

Objectives: To gain a basic understanding of the menu bar and its contents, and also to perceive the function of windows.

1. **What is a menu bar, menu and a menu command?**

   Boot up the Macintosh. That is, turn on the machine and insert a disk. The desktop should be displayed and this session begins where the last session left off!

   In the desktop diagram 6, given in session 1, the white bar across the top of the desktop is called a menu bar. The items in the menu bar are menu headings. Menus contain a list of items which may be selected by the user. The menus which are currently available may change depending upon the application in use, however, the menus remain constant for a particular application everytime it is put into operation.

   Menus may be displayed by pointing to the menu title and pressing the mouse button. The menu is then pulled down by dragging vertically downwards so that its contents are displayed. These displayed items are menu commands. Keeping the mouse button pressed, drag the mouse down the menu until the command desired is displayed in reverse video, (black). Release the mouse button and that menu command becomes selected. The menu list disappears and the Mac then performs the actions to carry out the selected command.

   At times some menu commands will not be available for selection because their action is irrelevant to the task being carried out. These nonavailable menu commands are seen in a gray colour and when pointed at, the reverse video (black) selection does not occur. Only those menu commands seen in black bold print may be selected.
Diagram 7: Menus and Selection.
2. **What is an Apple?**

   The leftmost item in the menu bar is a picture of the Apple Logo. The Apple also hides a menu.

Diagram 8: The Apple Menu Contents.
The apple menu contains a list of desktop accessories. These accessories may be selected at anytime while using the Mac, either inside or outside of an application, folder, or document.

**About the finder...:**

Select this apple menu command. The finder is a term used to represent the Macintosh operating system. This command will display a pretty picture along with the finder version number in use, release date, and the Authors. A click on the mouse button will hide the finder information.

**Scrapbook:**

Now select the apple menu command **scrapbook**. The scrapbook is a place where text and pictures may be saved for use in later documents. See diagram 9 on next page.

Notice the title bar. It contains the name of the desk accessory being observed. When the six gray lines are seen in the title bar, it means the window is active and work may be performed on that window. When no gray lines are seen, the window is inactive.

The bottom right hand corner displays either 'TEXT' or 'PICT' depending upon whether the entry being examined is text or a picture. To the bottom left is displayed:

```
  2 / 6
```

The '2' represents the entry number presently in the window and the '6' represents the total number of entries in the scrapbook. The left and right scroll arrows will move the window one entry to the left or right respectively when the scroll arrow is clicked upon. That is, point to one of the arrows and click. Take notice of its action and also note the change in the bottom left hand box of entry information.

In the middle of the scroll arrows is an elevator bar depicting the length of the entire scrapbook. As one clicks on either scroll arrow the elevator moves. Now, try clicking on either side of the elevator inside the elevator bar. Another shortcut! Place the arrow on the elevator and drag it either left or right. Travelling through the scrapbook can be done quickly and easily using this feature.
Use the Scrapbook to store a variety of text selections and pictures which may be transferred between applications. Using the edit menu, Cut or Copy an item from the Scrapbook, then Paste it into an application document.

Diagram 9: The Scrapbook.
Alarm Clock:

Once set, the alarm clock of the Macintosh keeps the time and date correct due to a battery inside the back of the Mac. Select the alarm clock from the Apple menu. Click once on the music note on the top right hand side to display:

Diagram 10: The Alarm Clock.

Select the clock to adjust the time. As the arrow is moved into the second line, the arrow changes shape into that of a cross. Place the cross over any of the three numbers and click. This number will then be selected and shown in reverse video. By clicking on the up and down arrows, the number selected will increase or decrease with respect to the number of clicks. Try holding the mouse button down over one of the up or down arrows! Also, try typing the number you want by pressing digits on the keyboard. There are a variety of ways to correct the time as seen. Once the correct time has been entered, click again on the clock icon on the bottom line. Notice that the first line adjusts to the time you have entered.
The date and the alarm can be set in a similar fashion. One *click* on the on/off button for the alarm will set it either on or off. This can be seen by the lines surrounding the alarm clock icon appearing or disappearing. The Macintosh is an American made machine and thus, the date must be entered in the format month, day, and year. To put the lower half of the alarm clock away, *click* again on the music note.

**Calculator:**

This calculator works the same way as a four function hand calculator, where '/' means division and '*' means multiplication. To operate the calculator, *point* to the numbers or operators desired and *click*. The numbers will appear in the calculator display. Numbers and operators may also be entered via the keyboard.

![Diagram 11: The Calculator.](image)

**Notepad:**

Next, *select* the notepad. Treat this notepad the same as a notepad on the desk. What is entered into this notepad is automatically saved, so notes can be jotted down as reminders of appointments or messages, etc. There are eight pages in the note pad.
Clicking on the upturned page corner will flip the page of the notepad to the following page and clicking on the downturned page corner flips back to the previous page.

While working on the notepad the arrow cursor changes to an I-bar shape. The insertion bar indicates the place where text will be entered when keys are pushed on the keyboard. If you position the I-bar anywhere in the text and click, the insertion bar moves to that position. Thus, editing of the notepad may take place.
Key Caps:

The key caps selection of the Apple menu displays a picture of the keyboard. There is a display bar across the top and a flashing insertion bar to indicate text entry. Text can be typed via the keyboard, or one finger typists, may point to a character and click. Each character entered will be seen in the display bar.

This key caps display is shown to illustrate the four optional keyboard sets. One set is presently displayed. Pressing the 'caps lock' key on the keyboard down is a second, pressing the 'shift' key down is a third and the fourth set is shown when pressing the 'option' key down. Thus, holding any of these three keys down and entering the desired character key gives the four different character sets available while using the Macintosh.

The backspace key will erase the character directly to the left of the insertion bar. This feature is common throughout all of the Mac operations.

Diagram 13: Key Caps.
**Control Panel:**

The control panel allows the following selections and adjustments:

1) The volume of the Mac beep tone.
2) The date.
3) The time.
4) The number of times a menu command blinks when selected.
5) The speed of the blinking insertion bar.
6) The speed of repeating characters, if at all.
7) The touch of the keyboard.
8) The time taken for two single clicks to be interpreted as a double-click.
9) The desktop background pattern.
10) The rate at which the mouse travels with respect to the screen.

*Diagram 14: The Control Panel.*
2) & 3) The date and time may be set the same way as described for the alarm clock.

4) Selecting '0' means that a menu command will not blink at all and '3' means it will blink three times before performing its action.

5) Selecting '1' makes the insertion bar blink slowly and '3' makes it blink quickly.

6) '0' means a key will not repeat when it is held down on the keyboard. '1','2','3' and '4' indicate the speed with which a character will repeat when it is held down on the keyboard. The '4' setting is very fast so be careful of the setting.

7) '0' means a very light touch on the keyboard keys while typing. '1','2','3' and '4' indicate increasing touch on the keyboard keys.

8) These arrows indicate the time allowed between two clicks so that the Macintosh will assume a double-click has occurred as opposed to two single clicks. Thus, the arrows farthest apart allow a longer period between the two successive clicks, and the arrows closest together mean that two successive clicks very quickly constitute a double-click. Of course, the middle arrows mean the time between the two successive clicks is neither very fast or very slow but medium, in comparison to the other two options given.

9) Placing the mouse cursor, (which changes to a cross), on the menu bar of the display and clicking will show the various patterns available as a desktop background. The larger box to the left is an enlargement of the pattern shown. Clicking inside this enlargement box reverses the colour of the square to which the cursor points. This allows the creation of new patterns. Clicking in the desktop area of the display will then change the desktop background to the chosen pattern.

10) This illustrates the way the mouse on the desktop relates to the movement of the mouse cursor on the screen. When '1' is selected, the mouse cursor will move far across the screen with very little actual mouse movement on the desk.
The '0' selection means the mouse on the desk must move a greater
distance for the same distance movement on the screen. '1' is usually
the desired setting.

The control panel should be adjusted to suit the user and once it is
set it will remain that way for the particular disk that it was set up on
until altered again.

**Puzzle:**

The puzzle is a good way to delete boredom. It is a typical "place the
numbers in their numerical order" puzzle. *Clicking* on the number to be
moved into the dotted square is how to play. Go ahead and try it but don't
spend the whole day worrying about it. It is just for fun.

Whenever the puzzle is put away and *selected* again, the numbers
are shown in a random order, so it must be left on the desktop if it is to
remain in a certain order for later.

![Diagram 15: The Puzzle.](image)

Now the Apple menu contents have been discovered. This Apple menu
remains the same with every application. These desk accessories may be
*selected* or used at any time while the Mac is on.

Before continuing select **close all** from the file menu and watch the
Mac neatly put everything from the desktop away in its appropriate spot. I
wish I had a button like that to select for my bedroom!!
3. **Opening and Closing Windows.**

*Double-click* on the disk icon in the upper right hand corner of the desktop. Displayed is a window, which is active, and the filing cabinet has been opened showing the contents of the disk.

![Diagram 16: Disk Window.](image-url)
The title bar gives the name of the disk and indicates whether or not the window is active. The close box on the left hand side of the title bar is a short cut for closing windows. *Click* on the close box and watch the window being put back into the disk icon.

Open the disk again. Underneath the title bar is some information about the disk. The number of items explains the number of items in the disk. Sometimes all of the items cannot be seen and the window must be expanded to observe them. The second piece of information explains how much disk space has been used to hold the number of items indicated. The last bit of information indicates the disk space available for the creation of documents.

To expand the window, place the arrow cursor on the window size box and *drag* the box to the size of window desired. Thus, the window can be made smaller or as large as the desktop itself. Since there may be more items than can be seen in the largest window, there are elevator scroll bars for scrolling through the contents. These elevator scroll bars are used in the same manner as the one illustrated in the description of the scrapbook. The elevator bars become inactive when there are no more contents to be seen.

Diagram 17: Window Concept.
Since the contents are larger than the window, scrolling aids the viewing of the entire contents. Since this is a desktop it should be possible to move things around on the desk. Place the arrow cursor in the title bar, (that is anywhere except on the close box), and drag the window to its desired position on the desk and release the mouse button.

A desktop often has several windows displayed on top of each other. Only the topmost window only is active. To activate a window near the bottom of the pile of windows, place the arrow cursor on any portion of the desired window and click. This brings the desired window to the top of the pile and makes that window the active one. The active window can be moved about, perhaps to uncover windows which were completely hidden.

Open the trash can. The trash window is now active and the disk window inactive. Click once on the disk window and see what happens.

4. Dialog and Alert Boxes.

Sometimes the selection of a menu command requires further information from the user before the operations of the command may be carried out. This information is obtained via a dialog box. This box is rectangular in shape and contains buttons, dials and other graphic symbols. Two buttons included in all dialog boxes are 'OK' and 'CANCEL'. If a command has been chosen, but the desire to carry it out has ceased then selecting the 'CANCEL' button will cancel the command. To execute the command the appropriate information must be entered and the 'OK' button selected.

An alert box is similar in appearance to a dialog box but it provides warnings and error messages. Alert boxes will vary in appearance as the information contained in them depends upon the severity of the mistake. A beep tone is usually heard with the appearance of an alert box and an answer to the warning must be entered before the ability to perform any other Mac operation is regained.
5. **File Menu and its Contents.**

The file menu contains eight menu commands. When menu commands are seen in gray they are not available. When in black bold print the commands may be *selected*. At disk level on the desktop, the file menu contains the following commands:

- **open** - This command opens icons so you may see their contents. To open an icon, *select* the desired icon and then *select* this command. *Double-clicking* on an icon performs this same operation.

- **duplicate** - *Selecting* an icon and then *selecting* this duplicate command will make an exact copy of the *selected* item and place it on the desktop. The copied item will be named "Copy of ???????".

- **get info** - This command gives some information relating to an icon. *Select* the desired icon and then *select* this command.

- **put back** - Icons may be moved by *dragging*. When icons are sitting alone on the desktop, this command will put the *selected* icon back where it originally came from before it was *dragged* onto the desktop.

- **close** - This command when chosen will close the window which is currently active. A *click* in the close box of the window performs the same action.

- **close all** - As seen before, this command will close all desk accessories and all windows displayed on the desktop.

- **print** - *Selection* of the desired icon and then *selection* of this command will cause the document *selected* to be printed if a printer is attached to the Mac terminal. A dialog box will always appear with the *selection* of the print command.
Diagram 18: Print Dialog Box.

To make a *selection* in the dialog box, *point* to the required button or dial and *click*. To enter information into a box, *click* inside the box and text can be entered at the cursor which takes the shape of an insertion-bar. Three levels of quality of the print out may be selected. Draft quality takes 30 seconds per page and does not allow the use of fancy fonts, (to be introduced later). Standard quality allows font usage and takes 1 minute per page to print as it makes two passes per line. High quality takes 2 minute per page and makes four passes per line of print. High quality should only be *selected* as a final print out when a high quality document is needed. Page range *selection* allows printing of all pages of the document or from a specified page number to a specified page number. Thus, the printing of just certain pages of a document may be accomplished. Also, the number of copies desired may be selected. Continuous paper feed indicates that the paper in the printer is in one continuous long sheet. Cut sheet paper feed allows the input of one sheet into the printer. After one page has been printed, the Mac will stop and wait for the next sheet to be placed in the printer before continuing. Once the desired information has been entered into the dialog box, *clicking* on the 'OK' button sends the information down the line to be printed.
eject - This command ejects the disk from the disk drive. The disk to be ejected must be selected (i.e. in reverse video), before this command is available.

Since menus in the menu bar differ from command to command, but for the same command name, the menus in the menu bar are the same throughout the entire usage of the Mac.

6. What is in Edit?

The edit menu contains all the necessary commands for the editing of documents. The use of these commands will become clearer in session 3 when document creation is described.

undo - This command will reverse the action of whatever command was previously performed. If the previous command was an undo command, the selection of this command once more will restore the changes made by the original command.

cut - This command deletes selected information from the document and places it on the clipboard.

copy - Copy, copies the selected information onto the clipboard without removing it from the document.

paste - Paste places the information held on the clipboard into a document at the point where the insertion bar is located.

clear - Clear removes selected information from the document without placing it onto the clipboard.
select all — This command will select all icons in the active window. To select more than one icon but not all icons, place the arrow to the left of the icons to be selected and drag. A box outline will be seen. Once this box outline has enclosed the icons desired for selection, release the mouse button and all of the icons within the box outline will have been selected. Notice the dragging of individual icons may have to precede the box selection so that those desired not to be selected will remain outside the box area.

show clipboard — This opens the clipboard as a document and the current contents of the clipboard are displayed in this window showing the information which was last cut or copied.

7. I want a good View!

There are five different ways of viewing the list of contents of a disk, file folder or the trash can. The view menu contains the commands by icon, by name, by date, by kind and by size. Already seen is the view by icon. However, it is possible to obtain a line of information for each icon. This line of information includes the name of the icon, the kind of icon displayed, the amount of disk space used by that icon and the date that icon was last modified. This line of information is sorted by either name, date, kind or size depending upon the view menu command selected. Experiment by selecting each view command and note the order of the displayed information.

8. What is so Special?

The special menu consists of three commands, clean up, empty trash and erase disk.
Since the **erase disk** command should **NEVER** be selected it will not be explained. **Select** the view menu command **by icon**. Drag the icons to various parts of the window such that they are not neatly aligned in rows and columns. Now, **select** the **clean up** command. As seen, **clean up** aligns icons neatly in the window.

If a document has been *dragged* into the trash, it may be retrieved by opening the trash can and *dragging* the document out of the trash window. Thus, a document thrown in the trash is still on the disk. To discard the document completely, the **empty trash** command is **selected**.

During a session documents may be thrown in the trash and the **empty trash** command never **selected**. Once the disk is ejected, these documents are automatically discarded and the trash is emptied.

**9. I have Finished my Session!**

Session two is now completed. Experiment with what has been outlined so that these operations become quite familiar. When finished, eject the disk using the **eject** command from the file menu.

**You should now be able to:**

1) Know how to use desk accessories.
2) Understand the window concept and facilities.
3) Open and close icons and windows in two different ways.
4) **Select** menu commands and understand their operations.
5) Be able to handle dialog and alert boxes.
6) Throw documents into the trash and retrieve them.
SESSION 3: Macplease May I Macwrite?

Objectives: To learn how to create a Macwrite document. Also, to gain knowledge of the Macwrite functions.

1. Getting Ready.

Obtain a Macwrite/Macpaint disk and boot up the Macintosh machine. Open the disk icon and then open the Macwrite application icon. Macwrite is a word processing application with excellent features which will be explained in this session.

Use the keyboard to type in about four paragraphs. A full screen of typing should be entered. Do not worry about errors as these may be corrected later. The return key need only be pressed at the end of a paragraph. Within a paragraph the Mac will automatically start a new line without losing text at the right hand margin.

2. The Document Window.

Macwrite is an application (command) which manipulates documents containing text. Opening of Macwrite creates a window containing a blank Macwrite document.

The features common to a window are seen; the title bar, the close box, the vertical scroll bar and the size box. These features work in the same manner as that described in session two.

Note the movement of the insertion bar as typing was entered. Also, the arrow cursor has changed to an I-bar while positioned inside of the document window. These two distinctive characteristics work the same way as those described in session two for the notepad.
If the typing entered has caused the ruler at the top of the window to disappear out of sight, drag the elevator to the top of the vertical scroll bar so the entire ruler can be seen.

![Diagram 19: Format Ruler.](image)

Setting the format of text is done by this ruler. Left and right margins are set by dragging the black triangle markers to their desired position on the ruler. Only a seven inch ruler is seen but the actual page being worked with is 8 1/2 inches. Thus a 1 inch left margin is standard and a 1 1/2 inch right margin is used. The movement of the window to the left dragging the title bar, and then using the size box to widen the window out to the right will allow an extension of the right hand margin.

Paragraph indentation may be set by dragging the paragraph indentation marker to its desired position on the ruler.
To the left hand side is a regular tab bucket and a decimal tab bucket. These tabs may be dragged out of the bucket and placed at desired positions along the ruler, and there are a total of ten tabs in each bucket. The regular tab is a left justification tab and works the same as that of a tab on a typewriter. The decimal tabs are right justification tabs and when working with numbers will align numbers according to the decimal position in the number entered.

In the centre one finds the line spacing capabilities. Selection of single spacing, space and a half, or double spacing is up to the user.

Left justification, centering, right justification or full justification of all text that follows the ruler may be selected using the right hand group of box icons seen on the ruler.

To select the spacing or justification boxes, point to the desired box and click. When the box is seen in black, it is selected. Experiment with each of these functions and watch how the text adjusts itself accordingly.

3. **Edit and Apple Menus.**

The edit menu contains the commands *undo, cut, copy, paste* and *show clipboard*. These commands and their actions have been previously discussed in session two.

The apple menu contains all of the desk accessories outlined in session two. There is one difference in that the first command supplies information about Macwrite instead of about the finder.

4. **Text Selection.**

To select text, place the insertion bar to the left of the text that is to be selected. Then drag the mouse over the text so that the desired text appears in reverse video. Once text selection has occurred, the *cut, copy* and *paste* commands may be selected to manipulate the selected text.
To select a large piece of the document, shift-clicking is useful. Move the I-bar to the beginning of the text to be selected, and click. Then move the I-bar to the end of the desired text and shift-click. The text between the placement of the first click and the shift-click is now selected and appears in reverse video. Notice that text selection occurs between the first click and the second click regardless of the direction of travel.

The desire to place something on the clipboard occurs when we wish to move text around between documents. Using the commands cut or copy we can place a selected piece of text onto the clipboard. Using paste we can place the contents of the clipboard into the currently active document. In order to get selected text onto the clipboard, the cut or copy command must be chosen. However, if the selection of text by one hit of the backspace key, it will disappear. Also, if text has been selected and typing is now entered, the typed text will replace the selected text. However, pressing the backspace key or typing over something does not place the removed text onto the clipboard.

The backspace key will delete the character to the left of the insertion bar. Thus, moving the insertion bar around and using the backspace allows for easy editing of text.

Note, the four character sets outlined in the key caps desk accessory may be used at any time while typing in text. Just remember which key to hold down while typing, (see description in session two).

5. Searching.

The search menu contains two commands:

1) find
2) change.

Select the find menu command. This command finds and selects the next occurrence of the text entered into the 'FIND WHAT' text box. Enter a word, (or words), into the 'FIND WHAT' box. Choose a word that has been previously entered in the four paragraphs typed.
The 'WHOLE WORD' button *selection* means that the word being sought is a word by itself, (i.e. with a space before it begins and a space or punctuation after the word ends). The 'PARTIAL WORD' button *selection* means that the word being sought may be a 'WHOLE WORD' or may be contained within another word, (example: Using the word 'the' we see that 'the' is a 'WHOLE WORD' but 'there' is a partial word). Select either the 'WHOLE WORD' or 'PARTIAL WORD' button and select the 'FIND NEXT' button.

The word, (or words), being sought will either be displayed in reverse video on the document window screen, or a dialog box will be seen explaining that the particular word has not been found within the text entered in the document. Selecting the 'FIND NEXT' button again will find the second occurrence in the text if there is one and so on.

The 'FIND WHAT' text box has room for a phrase of up to 44 characters with the exception of the return character and the tab character. To make adjustments to the found and *selected* text, the document window must first be activated.

Now, select the *change* menu command. What has just been observed in the find command window is also contained in this *change* command window, and these characteristics behave the same as outlined above.

The 'CHANGE TO' text box also has room for 44 characters with the exception of the return and tab characters. The text that is to replace the phrase found in the 'FIND WHAT' box is entered in this 'CHANGE TO' box.

Clicking the 'CHANGE, THEN FIND' button replaces the currently found and *selected* text with the contents of the 'CHANGE TO' box. It then searches to find the next occurrence of the contents in the 'FIND WHAT' box.

Clicking the 'CHANGE' button replaces the currently found and *selected* text with the contents of the 'CHANGE TO' text box but does not search for the next 'FIND WHAT' phrase. The 'CHANGE ALL' button will invoke a search and a replacement of all occurrences of the 'FIND WHAT' text within the entire document. This choice is not *undoable*. Examine these functions and when finished, close these windows.
6. Formatting.

Commands to arrange the appearance of text displayed, and to determine how text will be printed are found in the format menu.

The ruler and its formatting capabilities have already been outlined. Rulers can be inserted anywhere within a text document by selecting the insert ruler menu command. The ruler will be inserted to the left of the insertion bar and will be a copy of the ruler preceding it. The format setting on one ruler will affect text down the document until another ruler is encountered, or until the end of the document.

The desire to view a document without seeing the rulers which have been inserted is achieved by selecting the hide rulers menu command. This does not affect the formatting of the text but simply makes the rulers invisible. To completely get rid of a ruler or to copy a ruler it must be selected and the edit menu command cut or copy used. The very first ruler within a document may be hidden but may not be cut out. Rulers may also be pasted into documents.

The show header and show footer commands allow one to define top and bottom margins for every page contained within the document. Either one, or the other, or both may be contained in one document.

Both the header and footer have their own window. See diagram on the following page. The maximum length of either of these is one third of a page and they may contain text, pictures, page numbers, the time or the date. Page number, time and date icons can be seen in the windows and these icons may be dragged to their desired place within text or even on top of pictures. When printed, these icons will be replaced with their numeric value at that point in time.

To insert text, the insertion bar is manipulated the same way as in the document window and editing of the header and footer is done as easily. To insert pictures, they may be first copied to the clipboard and then pasted into the header or footer. Try this using pictures from the scrapbook. Also, the ruler may be used to format text seen in these windows.
After setting a header or footer, the reactivation of the document window will display these top and bottom margins as they should appear within the document. Note that any editing to either the header or the footer must take place within their individual windows and they cannot be altered within the document window itself.

Choosing `remove header` or `remove footer` from the format menu, (i.e. these windows must be initially open, but not necessarily active), or closing either window will remove these margins from the document window and also not place them in a print out of the document.

Selection of the `title page` command from the format menu either places a check beside the command or removes the check. If the check is seen, the header and footer will not be displayed or printed on the first page of the document. If no check is seen then they appear on all pages.

`set page` command allows the initializing of the page number that is to be placed on the first page of the document. This page number gives the page number icon within the header and footer windows an initial numerical value. This is handy when a large document has been split into several smaller documents, thus, allowing the first page of a document to begin at any number. The computer places the consecutive page numbers appropriately after this first number is initialized.

Just enter the desired initial number in the number box, (default is one), and when it is entered correctly, press the 'OK' button. The `set page` window disappears and the document will show the desired sequencing of numbering.

`Insert page break` command forces a page break and text entered after this will appear at the top of a new page. Adding or deleting text before the page break does not affect this command. The text following the page break will still be seen at the top of the next page.

7. **Different Fonts and Print Styles.**

A font is a particular style of printable character shapes with which text is displayed. The font menu displays nine different fonts. The style menu has choices for the style and size of text.
When one of these menu commands is selected, a check mark appears to the left of the command to show it has been selected. One or more styles may be chosen at the same time, (i.e. bold, italic and underline may all be selected at once). Selection of one of the styles of print can be deselected by choosing that particular style again. If all styles are deselected, then the plain text selection is made by default. Also, choosing plain text will remove any of the other selected styles.

Any combination of styles with a point size and a font will determine all subsequent characters entered at the insertion bar. When the insertion bar is moved around within the text for editing, the print will automatically adjust itself to the same print as that of the immediately preceding character. Also, a selection of any piece of text and then selections from either of these print style and size menus will cause the selected text to appear according to the new specification.

See Appendix B for display of each of the nine fonts, the five sizes and some combinations of the six styles. Experiment with these amazing Macwrite features and observe the many combinations which can be achieved. Also, note that different fonts look best at different point sizes of the print.

8. The File Menu.

The file menu contains the following commands:

1) New
2) Open
3) Close
4) Save
5) Save As
6) Page Setup
7) Print
8) Quit.

The new and open commands are available only when the current document has been closed. The new command will open a new, untitled document to be used. The open command opens previously created documents. When this command is selected, a dialog box appears.
The Open Dialog Box shows a list of the Macwrite documents which are present on the disk. To open one of these documents, point to its name and select it with a click. Then select the open button. Note the vertical scroll bar for use when all of the names of Macwrite documents cannot be seen in the display window. If this command has been chosen and the desire to now open a document has gone, select the cancel button and the dialog box will disappear and the open command will be obliterated.

Sometimes one may wish to open a Macwrite document that is saved on an alternate disk to the one in the drive. The dialog box displays the name of the disk presently in the disk drive. Selecting the eject button will eject this disk and the appropriate disk may be entered into the drive. The disk name in the dialog box changes and the list of Macwrite documents available on the new disk is seen. Select the desired document and open it. Then follow the instructions given by the machine which will direct the insertion of specified disks. Remember each disk’s name!
The `close` command will put away the currently active window. This command will prompt as to whether or not changes should be saved if this has not already been done. This command performs the same actions as selecting the close box in the title bar of the document.

The `selection` of the `save` command places a copy of the current document on the disk replacing the old document with the same name. This command is used to update an old version of a document previously saved on the disk.

When a document has had changes made to it but one desires to keep the old version previously saved, plus save the newly changed document as well, the `save as` command is `selected`. Another dialog box appears on this `selection`.

![Diagram 21: Save Dialog Box.](image)
The desired name of the document should be typed into the 'SAVE AS' text box. A name may contain any character except a colon, return or tab character. To save the document on the present disk, type in the name and select the save button. To save a document on another disk other than the one presently in the disk drive, select the eject button and insert the disk the document is to be saved on. Again follow the instructions given, as in the open command description. Note, a cancellation of this command is also possible via the 'CANCEL' button.

The button 'ENTIRE DOCUMENT' will save the entire formatted document with fonts, styles, headers, footers, page breaks, etc. However, the 'TEXT ONLY' button will just save text, (ie. it will not save the formatted document containing fonts, styles, etc. mentioned above).

As a default, choosing SAVE for an untitled document will cause the Printer Page Set-up Dialog Box to appear.

Specifying the size of paper and the direction of print across the page is done with the selection of the page set up command.

Explicit access to this box which specifies the size of paper and the direction of print across the page is achieved with the selection of the page set up command.

The size of the printer paper determines the paper button to be selected. The following options are available:

US letter - 8 1/2 inches wide, 11 inches tall
US legal - 8 1/2 inches wide, 14 inches tall
A4 letter - 8 1/4 inches wide, 11 2/3 inches tall
International Fanfold - 8 1/4 inches wide, 12 inches tall.

The 'TALL' orientation selection means that the document will be printed upright on the page with the top line at the top of the page. The 'TALL ADJUSTED' option is used when printing pictures which must be printed without distortion. The 'WIDE' selection means the text is printed sideways on the paper. This selection depends upon the type of paper you have inserted into the printer. See diagram on following page.
Changing these settings adjusts the length of the pages and the placement of explicit page breaks may have to be adjusted. When the document is saved, these page settings are also saved and thus, need only be set once.

The **print** command produces a printed copy of the document. A printable copy is first saved and then it is sent to the printer. To cancel printing once it has begun, **press** the fan control key and a period. Printing will cease shortly.
Choosing the **print** command presents another dialog box. This box has been examined in session two previously. The **quit** command allows exit from the Macwrite application back to the disk level. If any changes have been made to the current document, the option to save these changes is given.

Expertise with these commands will come with time and management of many documents. However, try what you can at present.

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9. **Finished with My Session.**

Enough description about the Macwrite application has now been given for the creation of text documents with ease. Create as many documents as necessary to feel experienced and in control of the Macwrite features. Eject the disk and turn off the Mac when finished.

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**You Should Now be able to:**

1) Manipulate the document window.
2) **Select** text and edit text via the edit, font and style menus.
3) Save, open, close and create Macwrite documents.
4) Converse easily with the dialog boxes outlined
5) Format documents using all features given in Macwrite.
SESSION 4: Macintosh Pascal

Objectives: To gain knowledge of the Mac Pascal functions and learn how to enter and execute a Pascal program.

1. The Initial Picture.

Obtain a Macintosh Pascal disk. Boot up the machine. Open the Macintosh Pascal disk icon to view the disk's contents. The document icons seen on this disk represent Pascal programs. Open one of these programs. The screen should look like this:

Diagram 24: The Pascal Desktop.
Displayed are three windows, the program window, the text window and the drawing window. The usual features associated with a window, (close box, scroll bars, size box and title bar), are included with each window and become operational when the window is activated. The program window holds the Pascal program code and the creation and editing of code is carried out similarly to text manipulation within the Macwrite application. The text window contains any text output created by the execution of a program. Any graphic output created by the execution of a program is seen in the drawing window.

Words seen in **black bold print** within the program window are reserved Pascal words. Also, Mac Pascal will format the typed code into its own desired arrangement. Thus, there is no need to worry about proper indentation or return character insertion. Once a semi-colon is entered, the code will be formatted appropriately. This is a great aid for debugging purposes as one can see whether the indentation seen is what was desired. Is a `begin` and `end` surrounding some statements needed? Also, if a word entered is not in **black bold print**, is it the required reserved word? Has it been spelt correctly?

This session does not teach how to write a Pascal program. It does however, instruct how to enter Pascal code and execute it. That is, how to operate within the Macintosh Pascal environment.

2. **Four Familiar Menus - Apple, File, Edit and Search.**

The Apple Menu contains the standard Macintosh desk accessories. The about Macintosh Pascal command will display details about this version of Mac Pascal.

The File Menu holds only one new menu command called **revert**. This command will undo any changes made to the Pascal program code and restore the last version of the program that was saved on the disk. To confirm that this command actually achieved what was desired, a dialog box will double-check this before reverting. All other file menu commands have been previously outlined in Session Three.
The edit menu contains commands which have been described previously. The **select all** command, however, *select* the entire Pascal code within the program window instead of icons.

Commands for finding specific text and changing that text are found within the search menu. Although the function of the search menu in Macwrite is the same as here, the operation of searching is different. Select the **what to find** command from the search menu.

Text entered into the text boxes may contain any character except the tab and return characters. Text located in the 'SEARCH FOR' text box is what will be searched for when the **find** command is *selected* from the search menu. The text entered into the 'REPLACE WITH' text box is what will replace the *selected* text when **replace** is *selected* from the search menu.

The 'SEPARATE WORDS' and 'ALL OCCURRENCES' button selections operate the same way as the 'WHOLE WORD' and 'PARTIAL WORD' button selections in the Macwrite search menu **change** command dialog box. Thus, the 'SEPARATE WORDS' selections means that the searched for text will be found only if it is surrounded by word separators, (spaces or punctuation). The 'ALL OCCURRENCES' button **selection** will match all occurrences of the 'SEARCH FOR' text.

![Diagram 25: What to Look For Dialog Box](image-url)
The 'CASE IS IRRELEVANT' button will match the 'SEARCH FOR' text regardless of whether it is in upper or lower case type and the 'CASES MUST MATCH' button will find the 'SEARCH FOR' text only if matching characters have the same case. The 'OK' and 'CANCEL' buttons function in a similar way in all dialog boxes.

Selection of the everywhere menu command will perform a find followed by a replace until the 'SEARCH FOR' text can no longer be located. All search menu choices, and edit menu choices may be applied to the instant and observe windows which will be described soon.

3. **Running a Program**

The Run Menu contains commands to **check**, **reset** and execute the Pascal code in a variety of ways. Choosing **check** will test to see if the Pascal code in the program window is a valid program. That is, the syntax of Pascal is checked for validity. If any code entered is invalid a bug box will be displayed indicating an error. Example:

![Diagram 26: A Bug Box](image)

**Error Message appears here.**
After reading the message select the 'OK' button to get rid of the bug box. A finger will be pointing to the line containing the error within the program window. Choosing check does not run the program. However, running the program always invokes the check command before executing the code.

The reset command will return the program window and other appropriate windows to a state ready for execution from the beginning of the program instead of a continuation of execution. Thus, if the program has been halted in the middle of execution, reset will place it back to the beginning.

Go causes the program to be executed. If the program has been halted, the choice of this command will cause the program to resume execution from where it was halted, (ie. from the line the finger is pointing to). Otherwise, the program starts execution from the beginning of the program.

The step command allows the execution of one line of code at a time. Thus, choosing step advances the finger and executes the last line the finger was pointing to. This process is slow since the selection of the step command must be made each time to advance the finger and execution. The step-step command will step through the program and the finger will point to each line as it is being executed. Step-step is a sped up process of the step command. Try it and see the difference!

The go-go command also is similar to the go command, only it involves stop signs. Stop signs are great for debugging purposes. Choosing the stops in menu command will cause the program window to change and incorporate a stop sign vertical bar on the left hand side of the window.

Moving the arrow cursor into the vertical stop sign bar will cause the cursor to change to a stop sign. Clicking the mouse button will place a stop sign to the left of a program code line. Any number of stop signs can be placed within the program. Now choosing go will cause the program to execute and upon reaching a stop sign will cause the program to halt. Choosing go-go will cause the program to halt at the stop sign for a few seconds and then resume execution. If the stops are in, the menu command choice becomes stops out and the selection of this command will remove all stop signs and the vertical stop sign bar.
Pascal's Triangle

{ Beautiful and fancy program written to test Macintosh Pascal. Note the many wonderful things it does

{ Peter J. Maruhnici 22-Feb-1996

program PascalTriangle;
const
cellSize = 3;
maxWidth = 32;
center = 95;
var
r : array[1..32] of Boolean;
width : Integer;

procedure NewRow (width : Integer);
var

Diagram 27: Stops In

4. What Windows are Involved?

Macintosh Pascal incorporates six windows:
1) Program window
2) Instant window
3) Observe window
4) Text window
5) Drawing window
6) Clipboard.

Selecting any of these window menu commands causes the selected window to become active. The program window menu selection will be
named with the same name as the program presently opened. *Select go* from the run menu and then *halt* the program in the middle of execution by *selecting halt* from the pause menu. Now, choose *instant* from the window menu choices.

![Diagram 28: Instant Window.](image)

The entering and editing of any Pascal statements just as in the program may be done here. Changes to the values of one or more program variables or constants may also be done. *Selecting* the 'DO IT' button will cause the instant window statements to be executed as in a normal program execution. *Selecting go* again from the run menu will cause the program to resume execution with the new variable and constant values indicated in the instant window.
Choose `observe` from the windows menu.

![Diagram 29: Observe Window.](image)

The cells on the right hand side of the Observe Window may contain any valid Pascal expression. Entering and editing of these expressions is done as in the Instant Window, but may only take place in the right hand cells. When the program is halted, (either by the `halt` selection in the pause menu, by a stop sign or by the complete execution of the program), the value of the expression at that point in time is displayed in the left hand cell. Debugging becomes quite easy with the use of the Observe and Instant Windows along with the use of the stop signs and `halt` command.

The `text` window displays any text output created and the `drawing` window displays any graphics output created during the execution of a program.

The `clipboard` menu command shows the clipboard and its contents. This clipboard operates the same way as outlined in Macwrite in Session Three.
Choose **type size** from the windows menu. A dialog box appears:

![Type Size Dialog Box](image)

Diagram 30: Type Size.

Examples of the type sizes are:

Small type will display as much text as possible in a window.

Medium text is the standard text type size.

Large is for those who have a hard time reading small print.

5. **Pausing While Running**

The Pause Menu appears in the menu bar only while a program is running. Placing the arrow cursor on the Pause Menu title and pressing
the mouse button will cause the cessation of program execution until the
button is released. Releasing the button causes execution to continue.
Selecting the **halt** menu choice causes program execution to halt.
Selecting any one of the run menu choices to execute the program again
will cause it to begin execution from where it left off if **reset** has not
been chosen first.

6. **Finished the last Session.**

The instructions for writing a program in Pascal will be given in
lectures. Experimentation with these commands may be carried out on one
of the sample Pascal programs given on the Mac Pascal disk. The
usefulness of these amazing features of Macintosh Pascal will become
obvious as soon as you try to debug and run your own Pascal programs.
Upon termination of this session, eject the disk and turn off the Mac.

You Should Now be able to:

1) Know how to enter a Pascal program.
2) Edit a Pascal program.
3) Execute a Pascal program in four different ways.
4) Debug programs using the observe and instant windows.
5) Save a program on the Pascal disk and also print the program listing.
APPENDICES

Description

Appendix A  -  The Four Keyboard Character Type Sets.

Appendix B  -  Fonts, Sizes and Style Combinations.

Appendix C  -  Short Cuts and Miscellaneous Information.
The Normal Character Set.

The Option Character Set.
Shift Character Set.

Caps Lock Character Set.
APPENDIX B
Fonts, Sizes, and Styles.

This is 9 point type size in New York font.
This is 12 point type size in New York font.
This is 14 point type size in New York font.
This is 18 point type size in New York font.
This is 24 point type size in New York font.

This is 9 point type size in Geneva font.
This is 12 point type size in Geneva font.
This is 14 point type size in Geneva font.
This is 18 point type size in Geneva font.
This is 24 point type size in Geneva font.

This is 9 point type size in Toronto font.
This is 12 point type size in Toronto font.
This is 14 point type size in Toronto font.
This is 18 point type size in Toronto font.
This is 24 point type size in Toronto font.

This is 9 point type size in Monaco font.
This is 12 point type size in Monaco font.
This is 14 point type size in Monaco font.
This is 18 point type size in Monaco font.
This is 24 point type size in Monaco font.
Fonte, Sizes, and Styles (Cont'd)

This is a point type size in Chicago font.
This is 12 point type size in Chicago font.
This is 14 point type size in Chicago font.
This is 18 point type size in Chicago font.
This is 24 point type size in Chicago font.

This is 9 point type size in Venice font.
This is 12 point type size in Venice font.
This is 14 point type size in Venice font.
This is 18 point type size in Venice font.
This is 24 point type size in Venice font.

This is 9 point type size in London font.
This is 12 point type size in London font.
This is 14 point type size in London font.
This is 18 point type size in London font.
This is 24 point type size in London font.

This is 9 point type size in Athens font.
This is 12 point type size in Athens font.
This is 14 point type size in Athens font.
This is 18 point type size in Athens font.
This is 24 point type size in Athens font.
Fonts, Sizes, and Styles (Cont'd)

This is point type size in San Francisco font.
This is 12 point type size in San Francisco font.
This is 14 point type size in San Francisco font.
This is 18 point type size in San Francisco font.
This is 24 point type size in San Francisco font.

Now for the style combinations:

This is plain text with 12 point New York font. All styles will be in this size and this font.
Here is just plain bold text. This is italic text. This text is just underlined. This text is outlined. This is the last style of shadowing.

Now here is a mixture:

How about bold italic, or bold italic underline, or bold outline, or bold shadow, or italic outline, or italic shadow, or italic underline, or bold italic underline outline shadow, or underline outline shadow, or just outline shadow.

These are just a few of the style combinations. See what combinations you can make that aren't show here.
**Shortcuts.**

<table>
<thead>
<tr>
<th><strong>Action</strong></th>
<th><strong>Result</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressing the return or enter key in response to a dialog box.</td>
<td>Same as clicking the 'OK' button or the command button which is outlined (if there is one).</td>
</tr>
<tr>
<td>Pressing the tab key in a dialog box.</td>
<td>Selects, (or moves the insertion bar), to the next place where information is to be supplied.</td>
</tr>
<tr>
<td>Pressing the command key, (i.e. the fn key), while also pressing a</td>
<td>The same result as that of the menu selection. This keyboard function may be used in place of</td>
</tr>
<tr>
<td>character. Within the menus a command key and the character to type is</td>
<td>the mouse and menus.</td>
</tr>
<tr>
<td>seen to the right of the menu command.</td>
<td></td>
</tr>
<tr>
<td>Double-clicking while the i-bar is positioned in a word of text.</td>
<td>The entire word is selected.</td>
</tr>
<tr>
<td>Pressing the command key while also pressing the 4 key.</td>
<td>Will print, (if a printer is attached to the Mac Terminal), the screen image.</td>
</tr>
<tr>
<td>Pressing the command key while also pressing the caps lock key and the</td>
<td>Will print the active window displayed on the screen if a printer is attached to the Mac</td>
</tr>
<tr>
<td>4 key.</td>
<td>Terminal.</td>
</tr>
<tr>
<td>Pressing the command key while also pressing the 3 key.</td>
<td>Will place the screen image into a file called screen 0. (Note: This file becomes a Macpaint</td>
</tr>
<tr>
<td></td>
<td>document and may be modified using the Macpaint Application.)</td>
</tr>
</tbody>
</table>

Also, on the Macpaint/Macwrite disk there is an application titled Macpaint. This application allows one to draw pretty pictures with amazing painting and drawing tools. Here experimentation is left for the student. Can you determine how each tool works within this amazing piece of software?
REFERENCES.

