Indiana University
Multi-campus Modular
Computing Curriculum

Introduction to Computing

Module # 4: Using Word Processing Programs

Goals

- Students will recognize the major types of word processing programs.
- Students will discriminate the types of problems that are best solved with various types of word processors.
- Students will recognize the major tools that are available in word processor application programs.
- Students will use a text editor to create and modify a simple ASCII text file.
- Students will use a high end word processing program to practice common text formatting problems.

Prerequisite Skills

- Comfort with the keyboard and mouse
- Experience with the STAIR process for solving problems
- Familiarity with principles of data encoding
- Familiarity with differences between hardware and software
- Understanding of the attributes of RAM
- Familiarity with operating systems, file names and directories

1 Discussion

Word processing is one of the most common applications for computers today. It would be difficult to spend a day in a modern office or university without coming into contact with a word processing program. Most people have had some contact with word processing. We shall examine the concept in some detail, so you will be familiar with a number of levels of word processing software applications, the types of tools such programs make available to you, and so you will know what kinds of problems are best solved with this type of program.

1.1 How Word Processors Work

The advantages of word processing programs can best be illustrated by thinking of some of the disadvantages of typewriters. When we use a typewriter to create a document, there is a direct connection between the keys and the paper. As soon as you press a key on the keyboard, there is an impact on the paper, and the document has been modified. If you catch a mistake quickly, you can fix it with correction tape or white-out. If your mistake is more than one character long, it is much harder to fix. If you want to add a word, move a paragraph, or change the margins, you have to completely retype the page. Sometimes this necessitates changes on other pages as well. A one word change could lead to retyping an entire document.

Word processing is a type of software that focuses on the ability to handle text. The computer does this by assigning each letter of the alphabet and each other character on the keyboard a specific numeric code. These numeric codes are translated into computer machine language, and stored in the computer's memory. Because the information is in memory, it is very easy to change and manipulate. This is the key to the success of word processing.

1.2 Example

Information in memory can be moved very quickly and easily. If we want to change a word in a document, what happens in the computer is something like this:

Imagine Darlene has started out her resume with the following word:

REUME

Obviously she has forgotten a letter. If she were using a typewriter, the page would be trashed, and she would have to start over. Since this is a word processor, Darlene can manipulate the memory containing codes for the word "REUME" and add the "S" to it. When she tries, the following things happen:

She moves her cursor to the spot in the text where she wants the S to show up. The "cursor" is a special mark on the screen that indicates at which place in the document the computer is currently focused. In this case, Darlene wants to put an S between the E and the U. Her word processor won't let her put the cursor between two letters (although some will), so she puts it on the U.

By moving the cursor, Darlene is telling the program to move around in memory as well. When she place her cursor on the U on the screen, she is telling the program to point to the corresponding spot in the computer's memory. The computer is now concentrating on the memory cell that contains the code for the character "U".

She checks to be sure she is in insert mode (more on that later), and she types the letter "S".

When Darlene does this, the computer shifts all the letters one memory cell to the right, and inserts the code for the S in its proper place.

1.3 Word processors and RAM

It sounds like a lot is happening. That's true, but computers do all these things so quickly that it seems instantaneous to us. You don't really have to know exactly where the stuff is in memory, or how it gets moved around. The important thing to understand is that all the information in your document is stored in some kind of machine language form in the computer's memory. When you modify a document, you are really modifying the computer's memory. A word processing program handles all the messy memory manipulation, so all you have to do is concentrate on writing your paper.

RAM (Random Access Memory), where all the action is happening, has one serious drawback. It only lasts as long as the computer is receiving electrical power. Obviously this will cause some problems, because you can't just carry a computer around to show people your documents. (Imagine the extension cord!) You also might run into some serious problems if your computer were suddenly hit by a monsoon or something, and you lost electrical power. In short, you cannot count on RAM memory alone.

Word processing programs (as well as almost every type of program) are designed to allow you to copy your information. Computer scientists refer to the information your program is using as data. The data in RAM can easily be duplicated to floppy disks or a hard drive. This is called saving. Copying the data from RAM to a printer is called printing. You can also copy data from other places to RAM. Copying the data from the floppy is referred to as loading the data. You might already know what saving and printing are. We don't mean to insult you by telling you again. We just want to illustrate that it all boils down to copying binary information to and from RAM.

2 Types of Word Processing Programs

There are many flavors of word processing programs. Different programs are better for different types of jobs. One common problem is deciding which program you will use to do a certain type of job. It is important to know your options.

2.1 Text Editors

The simplest programs that do word processing are known as text editors. These programs are designed to be small, simple, and cheap. Almost every operating system made has at least one built in text editor. Most text editors save files in a special format called ASCII (American Standard Code for Information Interchange — Whew!) ASCII is a coding convention that almost all computers understand. Each letter is assigned a numeric value that will fit in eight digits of binary notation. “a” is 97 in ASCII, and “A” is 65. All the numeric digits, and most punctuation marks also have numeric values in ASCII. You certainly don’t need to memorize all the codes, (That’s the text editor’s job.) but you should recognize the word “ ASCII”. The biggest advantage of this scheme is that almost any program can read and write ASCII text.

Text editors can be wonderful programs. The biggest advantage is the price. There is probably already one or more installed on your computer. You can find a number of text editors for free on the Internet. Text editors are also very easy to learn. Since they don’t do a lot of fancy things, they are generally less intimidating than full fledged word processor packages with all kinds of features. Finally, text editors are pretty universal. Since they almost all use the ASCII standard, you can read a text file written on any text editor with just about any text editor. This is often not the case when using fancier programs.

The ability to write ASCII text is the biggest benefit of text editors. ASCII is also the biggest disadvantage of most text editors. It is a very good way of storing text information, but it has no way of handling more involved formatting. Text editors generally do not allow you to do things like change font sizes or styles, spell checking, or columns. (If you don’t know what those things are, stay tuned. We will talk about them later in this chapter.)

If all you want to do is get text written, and you aren’t too concerned about how fancy it looks, text editors are fine. (In fact, the first draft of this book was partially written in Emacs, a text editor for the UNIX operating system.)

Common text editor programs:

- Windows: Notepad
- DOS: Edit
- Macintosh: SimpleText

2.2 Integrated Packages

Frequently these software packages are included when a person buys a new computer system. An integrated package is a huge program that contains a word processor, a spreadsheet, a database tool, and other software applications in the same program. (Don’t worry if you don’t know what a spreadsheet or a database is. We’ll get there soon enough!) An integrated application package is kind of like a “Swiss army knife” of software.

The advantages of an integrated package derive from the fact that all the applications are part of the same program, and were written by the same company. It should be relatively easy to use the parts of an integrated package together. These programs tend to be smaller, older versions of larger programs, so they might be less complicated to use. Since they were presumably written together, they should all have the same general menu structure, and similar commands. (The command to save a file would be the same set of keystrokes in all the programs, for example.) Integrated packages are often designed with casual users in mind. This might make them easier to use than more robust programs. The word processor built into an integrated package is probably more powerful than a typical text editor. Integrated packages are often already installed on new computers, so they might not cost you any more than the original purchase price of the computer. The word processor on an integrated package will almost certainly give you some features you would not expect to find on plain text editors.

Integrated packages have some disadvantages. With the advent of graphic user interfaces and modern operating systems, programs have become more and more standard even if they were written by completely different companies. Almost every program for Windows uses Alt-F-S to save, for example. Also, as in the Swiss army knife analogy, the programmers had to make some compromises in order to make all the applications fit in one program. A Swiss army knife does contain a saw, but if you had to cut down a tree, wouldn't you rather use a real saw? The programs in an integrated package are usually stripped down or older versions of the company's high end software. They certainly have fewer features, and might be less friendly. Word processing programs that are part of integrated packages generally have their own special code for storing text information, although they can usually read and write ASCII as well. (However, if you choose to save in ASCII, you cannot save all the special formatting commands).

Common Integrated Packages:

- Microsoft Works
- Lotus Works
- Claris Works

2.3 High-End Word Processors

Word processing programs have evolved a great deal from the early days of computing. A modern word processing program can do many things besides simply handling text.

Since the early '90s, most word processors feature a WYSIWYG interface. WYSIWYG (pronounced "whizeewig") stands for "What You See Is What You Get." This means that the screen will look reasonably like the finished document. This feature is important because the real strength of word processors is in the formatting they allow. Formatting is the manipulation of characters, paragraphs, pages, and documents. Most of the word processor features we will discuss below are various ways of formatting the text, or changing the way it looks on the page. Formatting was possible before WYSIWYG, but it required more imagination from the writer, because you couldn't see the effects of the formatting until you printed out the document.

Modern word processors also are designed to have numerous features for advanced users. Since a large portion of most people's computer time is spent with a word processing program, it is important that these programs have features to make editing documents easier. Some of the additional features that one can expect to find on a modern word processor are spelling and grammar checkers, ability to handle graphics, tables, and mathematical formulas, and outline editors. The word processing market is a very competitive one, and the major software companies are always competing to have the word processor with the most advanced features available.

Software companies are also interested in making their programs as easy to learn as possible. With this goal in mind, most word processors come with tutorial programs, extensive on-line help, and clear menus.

These full featured word processors sound wonderful, and they are. You might wonder if they have any drawbacks. Of course they do. Word processing programs as have been described often cost hundreds of dollars. The cost seems prohibitive for something that doesn't even have a physical presence! Many of the features of full-fledged word processors are not needed by casual users. Sometimes the sheer number of unneeded features can be intimidating. Using a full-power word processor just to write a couple of letters a week is like killing flies with a chain saw. You simply might not need that much power to do the job properly. High end word processing programs almost always save documents in special proprietary codes rather than as ASCII code. This means the programs can save all the special formatting that ASCII cannot handle (like font sizes, columns, graphics, and so on.) It also means that if you write a document in WordPerfect, you may not be able to read it in Word. Even different versions of the same program might not be able to read each other's documents directly. There are ways you can work around this problem, but you should know it exists.

- Commercial Word Processing Packages:
- WordPerfect
- Microsoft Word

2.4 Desktop Publishing

Another classification of programs you should know about has an uncertain future. These programs are called desktop publishing applications. Desktop publishing takes text that has already been created, and applies powerful formatting features to that text. Traditionally, applications that allowed the integration of text and graphics, and allowed the development of style sheets were thought of as desktop publishing. Such a program makes it easy to create other kinds of documents rather than just plain pages. With a desktop publisher, there are already style sheets developed to help you create pamphlets, cards, signs, and other types of documents that you wouldn't be able to create on a typewriter.

The higher end word processing programs give you most of the features you could want in a desktop publishing program. It is possible to do many of the same things. Desktop Publishers are still very popular in certain specialty fields (graphic arts, printing, and publishing,) but the effects can be duplicated with skillful use of a word processing program.

Common Desktop Publishing programs:

- Pagemaker
- Microsoft Publisher

2.5 Sign / Banner Programs

Another level of desktop publishing that has become very popular is the advent of specialty printing programs such as "The Print Shop" or "Print Master +". These programs are designed specifically to help the user create signs, banners, and greeting cards. They are very easy to use, and much less expensive than full-feature desktop publishing applications, but again the effects can be duplicated with a higher end word processor.

2.6 How Do You Choose Which Word Processor You Use?

As always, the critical question is: "What kinds of problems are you trying to solve?" For most beginners, the lower end word processor that came with their computer is a fine start. If it does what you need, and you are happy with it, don't spend money unnecessarily. Many people find that if they do a lot of writing, they begin to yearn for the features of a more powerful word processing program. As you gain experience, you will find a favorite program and learn its commands and idiosyncrasies well. You will find if you concentrate on the concepts, that all word processors of a certain level are pretty much the same, although the exact layout and command structure may differ. You will also probably discover if you do a lot of writing with the computer that you have several programs you use interchangeably. A skilled computer user often chooses the program to solve a specific problem much like a golfer chooses a different club for each type of shot. Sometimes a text editor is sufficient, and sometimes only the best, most powerful, and most expensive program will do the job properly. Learning what is best for you is part of the process.

3 Layout of Word Processors

Word processing programs of any type usually share the most basic features. They universally reserve most of the screen for the text being edited. Most word processing programs also contain a menu structure with most of the programs commands available in a hierarchical organization scheme. Many word processors have graphic toolbars with icons representing the most critical commands. Almost all such programs have scroll bars or some other mechanism for allowing the user to move around in large documents. All word processors also have a cursor, which is usually a small box or line, which shows the user where in the document she is currently typing.

4 Commands Available In Most Word Processing Programs:

Different types of word processing programs will have different commands available. Generally, text editors have the fewest commands. More complex programs often start with the same types of commands and add to them. Commands may be available in a number of ways; by locating them on the menu system, by looking up shortcut keys, or by pressing an icon on a graphic tool bar. If in doubt, utilize the on-line help to locate the command you want.

4.1 File Handling Commands

Any level of text editor or word processor will have commands to save, load, and print your text. These commands are so frequent that you will usually see many ways to invoke them.

Save Document Allows you to save your document onto some kind of disk. If you have already saved this document at least once, it will save the document to the same drive, directory, and file name you used last time. Saving a document really means making a copy of the codes in memory that represent the document, and copying those codes onto a disk file. If you have never given this document a name, a Save command often acts like a Save As. (see below) You might also look for a Write command, a picture of a disk, or a Save As command.

Save As... Often you will see this command in addition to a save command. There is a subtle difference between the two commands. Save As *always* asks you for the name and location of your file. Most of the time, the Save command does not ask for this information. If the Save command does not know what to call the file (because you have never saved it before) it will automatically invoke a Save As. The only time you absolutely must use a Save As is when you want to load a file, make some changes to it, and save it as a NEW file with a DIFFERENT name. If you use the Save command, the new changes will be written on top of the old document. With Save As, you can force the changed document to be in a new file. This really doesn't happen very much. Many people spend their whole lives using nothing but Save.

Load or Open You will almost always see a command that allows you to open or load a document. These terms usually mean the same thing. You will usually get some sort of a dialog box asking you for the directory and file name of a text document, and the program goes to the disk, grabs the file, and loads it into the editing area of the screen. (Actually, it loads the file into memory, and then shows a copy of the memory onto the screen.)

Print A print command takes the document and copies it to the printer. Obviously, for this to work, you must have a printer attached to your machine. There are occasional variations to this command. You might get a dialog box that asks you which pages to print, how many copies you want, which printer you want to use (if more than one is set up on your computer), and so on. You might also see a Print Preview command that shows a picture of what the page will look like when printed. This is especially useful when you are using a program that does not support WYSIWYG.

4.2 Editing Commands and Block Manipulation

There are a number of commands you will find on nearly any word processor that enable you to manipulate text in special ways. Frequently you will find these commands on an Edit menu. The editing commands are based on a concept called block manipulation.

Block manipulation simply means taking a "chunk" of text and marking it in some way so it can be treated as one unit. Once a block of text is marked as such, it can be deleted or manipulated easily.

Marking a Block Many modern programs allow you to mark a block of text with the mouse. Simply point the mouse at the beginning of the text you want to mark, hold down the mouse button, and drag to the end of the block. You will probably see the text you have dragged over change color. Some programs put highlighted text in inverse video. Many programs also allow you to select text with the Shift key and the arrow keys in combination. This is sometimes more precise than the mouse techniques. Some older programs require you to move the cursor to the beginning of the text, mark it as the beginning of a block, move to the end of the text you want to manipulate, and mark it as the end of the block. Learn how your program does it. It is worth the effort.

Copying a Block You will usually find some kind of command called Copy. It only works after you have marked a block of text. Copy by itself doesn't do anything on the screen, but it is still a very important command. What it does is to take the block of text and make a copy of it in a special part of memory called the clipboard (or sometimes the buffer). The copy command does not change the original text; it just places a copy of the text in the clipboard.

Cutting a Block Cutting is very similar to copying. You must start by marking a block of text. When you activate a cut command, the original block will disappear. It isn't gone forever, though. A copy of it has been made in the clipboard.

Pasting a Block The paste command doesn't make much sense until you have cut or copied a block of text into the clipboard. The paste command copies the contents of the clipboard into the document at whatever point the cursor was sitting when the paste command was activated.

How Block Manipulation Works These commands really need to be used together to be useful. Which ones you use depend on the kind of problem you are trying to solve. If you had to write "I will not talk out in class" 100 times, you might write the phrase once, mark it as a block, copy it, and then paste it 99 times.

Q. 1 Why would you paste the block 99 times rather than 100?

(Answer on page 4-23.)

If you have written a document and realize that the last line really belongs at the beginning of the document, you might mark the line you want to move as a block, cut the block move the cursor to the beginning of the document, and activate the paste command.

Q. 2 In this case, why would you cut rather than paste?

(Answer on page 4-23.)

4.3 Formatting Commands

Another set of commands are found less frequently on text editors, but are common on higher-level word processors. These commands are for formatting various elements of a document. You may find a format menu. Many of these commands also are available on toolbars.

4.3.1 Formatting a Character

A character is one letter or other symbol. There are many ways to format characters in word processing programs. It is possible to make characters bold, italic, underlined, or perhaps some other attribute. Not all word processors will do all these things, but most will do bold, italic, and underline. Often you activate the command by choosing it from a menu, clicking on a toolbar icon, or activating a key sequence. Once you have started the command, anything you type will be typed in that style. When you want to go back to standard letters, you activate the same command again. Commands that turn off and on like this are called toggles, because they are reminiscent of toggle switches. Many word processors allow you to enter the text without any format, then to select a set of characters as a block (like you did to copy and paste), then to activate the command. Experiment with your word processor to see how it works.

Word processors that feature WYSIWYG frequently support the use of fonts. A font is defined in computing as a combination of a special character set and type size. In the typewriter world, you were pretty much stuck with the size and style of letters the typewriter came with. Some of the later typewriters had the characters on a ball you could change, but you still had very little control of exactly how the letters looked. In a modern word processing application, you have a great deal of control. You can choose different type faces that look like script, handwriting, Old English, or whatever. After you have chosen a basic look for your letters, you can choose what size the letters are.

Fonts are measured by typesetters in points. 72.25 points is equivalent to an inch. Most standard text is 10 points. A newspaper headline might be 200 points. You may be able to control other attributes of each letter, such as its color, a shadow, and other advanced features.

4.3.2 Formatting Paragraphs

Most writing is organized into paragraphs. These divisions make a document easier to read. There are ways you can control how paragraphs look on the screen. You can control how your program handles indention. You can often force the computer to indent the first line of every paragraph automatically. You can also frequently control the line spacing inside the paragraph, the amount of spacing between paragraphs, and the justification.

Justification refers to how the text is lined up between the margins. Most documents created with a typewriter or word processor are left-justified. That means that the left margin is lined up perfectly, but the right margin is a little ragged. The computer keeps track of the right margin for you when you use a word processor, so you don't have to press the "Enter" key at the end of every line (in fact you shouldn't press "Enter" at the end of every line. The only time you should press "Enter" is when you want to end a paragraph!) The automatic process the computer uses to send text to the next line is called word wrap. If you want to have the right margin line up cleanly, but let the left one be a little ragged (Maybe as you type the return address and date of a business letter) you can choose a right justify command. If you look at books and magazines, you will see that both the right and left columns are justified. Many word processors will allow you to justify both margins. This works by adjusting the amount of space between letters and words so the margins work out perfectly. The computer does it automatically when you ask it to do so. Another form of justification is centering. When you center a line, you tell the program to give it equal left and right margins, regardless of the length of the line. Centering is useful for headlines, but is often distracting when used for body text.

The other major element of a document is the page. There are some page formatting commands you should be able to find in any word processor as well. You will probably have some way to adjust the margins of the page. Note that there are top and bottom margins, as well as left and right margins.

You can also frequently find some kind of header/footer command. Headers and footers are special areas at the top and bottom, respectively, of the page. These areas are not used for regular text, but reserved for special things like a title at the top of every page, page numbers, and footnotes. You will have to experiment a little to see how your word processor handles these features, but they are well worth learning. You will never go back to the old way of writing footnotes once you have mastered using footers to automate the process.

One more page formatting command you might find useful is page orientation. Many word processors allow you to choose how information is printed on the page. The "up and down" orientation we are used to seeing on typewritten documents is called portrait mode. (If you think about painted portraits, they are usually up-and-down rectangles.) When your document is printed "sideways" it is referred to as landscape mode. (Landscape paintings are often oriented in this way.)

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Portrait             Landscape
  mode                 mode
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Most of the time you should use portrait mode, but sometimes landscape mode is appropriate, especially when you are doing something special like tables, graphics, or fancy desktop publishing.

5 Commands Found in More Advanced Programs

5.1 High-End Formatting Tools

There are a few more elaborate formatting tools generally found only in the higher end word processors. These tools border on desktop publishing, and allow you better control of your document. You probably won't use them every day, but they are wonderful when you need them.

Tables On a typewriter, creating a table required judicious use of the TAB key and very careful planning. Most advanced word processors allow you to create tables very easily. You can usually select the number of rows and columns, change the size and format of rows and columns, and easily copy and paste specific cells. The table tool is worth learning.

Columns Sometimes you will want to have a page formatted into two or more vertical columns. This was quite tedious on a typewriter, but there is usually some kind of tool to make column creation easier on a modern word processor.

Lists You will frequently find tools for making lists. Lists can have automatic numbering (like an outline) or each list item might have a small icon marking, called a bullet. Most modern word processing programs have some kind of tool to make list management easier.

Graphics Most high-end word processing programs enable you to incorporate graphics into text documents with relative ease. Often they incorporate small painting programs so you can generate your own graphics as well. To make graphics and text easier to work with, many word processing programs include frames, which are boxes on the screen that can hold text and graphics. When you mix text and graphics on a page, you may want to investigate frames in the on-line help so you can have more control over how the text and graphics interact.

5.2 Composition Tools

Many word processors have other advanced features that help a writer with the mechanics of writing properly. These tools can be instrumental in avoiding common writing mistakes.

Spell Checking A spell checker is a program that looks at a document and compares each word in the document to an electronic dictionary. If it finds the word in the dictionary, it moves on to the next word. If it does not find the word, it stops and asks the user for guidance. Good spell checkers try to guess what word the user was trying to type and make suggestions. Even if you are a very good speller, you should get in the habit of running your materials through a spell checker. It is a quick and relatively painless way to keep typos from marring your paper.

Keep in mind that spelling checkers are not perfect, and they cannot catch every mistake. The following poem excerpt points out the problem:

```
Ode To The Spell Checker

                              I have a spelling checker.
                               It came with my PC.
                           It plane lee marks four my revue,
                            Miss steaks aye can know sea.
                             Eye ran this poem threw it,
                             Your sure reel glad two no.
                            Its vary polished in it's weigh,
                             My checker tooled me sew.
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(This poem can be found in its entirety at: http://selma.ucd.ie/ pdurkin/Jokes/spellcheck.html It is attributed to Jerry Zar, the Dean of the Graduate School, NW Ill. U)

Grammar Checkers There are also tools available on most high end word processors that will check your grammar for common mistakes. Grammar checkers are wonderful at catching mechanical problems like incomplete sentences and subject-verb agreement. Grammar tends to be more subjective than spelling, so the advice of a grammar checker might or might not be useful to you. It is worth running to check your mistakes, but it will never replace the lessons you learned from your English teachers or a skilled editor. When grammar checkers first came on the market, a reporter tried testing the Gettysburg Address by Abraham Lincoln. The program gave the speech extremely poor marks. Many people consider it to be one of the most beautiful passages of American English ever. Use a grammar checker if you have one, but also use your judgment.

Outline Editors These features allow you to organize your thoughts in outline format. The advantage is that you can choose to see only your main ideas or headings, and have all the text hidden. This feature allows you to move the main headings around and all the text associated with the headings will automatically move appropriately. If you are going to do term papers or other serious writing, you should investigate this feature.

6 Laboratory Assignment

6.1 Part One - The Text Document

Use a simple text editor to create a document. Your instructor lab instructor will tell you which editor or editors is available on the system in your lab. She will NOT tell you exactly how to get to it. That is part of the exercise. You need to locate and start the editor, and write a simple document that contains the following features:

1. Your name
2. Today's date
3. Which course/section you are in
4. The first names of five classmates, in the order they are sitting. (If you are not in the class, give the first names of five friends or family members.)
5. A short paragraph describing what kind of background you have in typing and word processing. Use complete sentences and appropriate grammar and punctuation!
6. Another short paragraph (at least five lines) telling something interesting about you. It is **not true and not acceptable** to say there is nothing interesting about yourself! (Again, follow the rules of grammar to the best of your ability)
7. Make a copy of your classmate's names from the beginning of the document.
8. Paste a new copy of the names at the end of the document. The original set of names should still be there!

9. Use cut and paste commands to sort the second set of names in alphabetical order. DO NOT simply retype the names in order. The purpose of this exercise is to give you experience using these ideas. Later on, we will expect you to be comfortable cutting and pasting. This is your chance to make sure you understand these concepts.

10. Save your document. Your lab instructor may have special instructions for you on where to save the document.

11. Print out your document.

12. Hand in your document to the lab instructor.

6.1.1 Example

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Andy Harris
7/12/96
CSCI 201

My Friends:
Sharon
Anjali
Tom
Chavonye
Chris

Word Processing / Typing Experience

I got a C in typing class in high school.  My typing instructor would
be shocked to know how many people I have taught how to use word
processors.  He would have been extremely shocked to know that I'm
making my living on a keyboard, and writing a book chapter on word
processing!

Interesting Things About Me

I have been a lifeguard, a swimming pool manager, a special education
teacher, a computer programmer, a computing teacher, and a writer.  I
used to teach high school students with severe cognitive disabilities.
It was a wonderful and very challenging job.  I miss the students, but
I enjoy the things I'm doing now.  I like computers, but I don't think
they are nearly as important in the grand scheme of things as some
people would have you believe.  Computers are there simply as tools to
help people have better lives.

Sorted List Of Names
Anjali
Chavonye
Chris
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Sharon
Tom
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6.2 Part Two

Obtain a copy of the document called changeme.txt. Your lab instructor may have special instructions for getting the document in your lab. You will also find the document on the next section of this chapter if you are reading the chapter through a web browser. Use a high end word processing program such as Word for Windows, WordPerfect, or another program suggested by your lab instructor to solve the problems listed in the document. Your lab instructor WILL NOT tell you how to solve the problems (although she might give you a hint or two.) Your job is to figure out how to use the tools in your word processor to solve the problems. The process of figuring out these things is what will give you confidence and skill. If you are already very familiar with a certain word processing program, try the exercise in a program you do not know as well. Turn in your completed document to your lab instructor.

6.2.1 changeme.txt

```
Changeme

A text template for practicing word processing features

Problem One:  Starting the word processor and loading this document.

Your first task is to get this text file loaded into your word
processor.  If you are reading this file from an Internet browser,
save the file to a local disk.  Locate and start your word processing
program.  You will need a fairly substantial program to complete all
the problems in this exercise!  Your lab instructor will show you the
choices of programs available in your lab.  (recommended programs:
Word for Windows 2.0 or greater, Word Perfect for Windows 6.0 or
greater).  Once you have the program started, load this document into
it.  Again, your lab instructor may have some hints for you on how to
do this.

Problem Two : Typefaces

Put this paragraph in a script typeface.  You may have to experiment a bit
to find an appropriate font.  Look for some kind of font or character
format command.

Problem Three: Font Sizes

Change the following lines so they are the appropriate size:
I'm 8 points tall!
I'm 12 points tall!
I'm 30 points tall!
```

Again, you might find a character formatting command. Sometimes there will be a tool on the tool-bar that lets you change font sizes. Experiment!

Problem Four: Character Attributes

Apply the appropriate attributes to the following lines:
This line is in bold face!
This line is italicized!
This line is underlined!

Problem Five: Alignment

Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment. Give this paragraph left - justified alignment.

Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment. Give this paragraph right - justified alignment.

Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins. Align this paragraph to BOTH the left and right margins.

Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph. Center all the text in this paragraph.

Problem Six: Headers

Figure out how to make a header that will print out automatically on each page of the document. Make the header say your name and section

```
number.

Problem Seven:  Columns

Change this paragraph so it shows up in two columns. Change this
paragraph so it shows up in two columns. Change this paragraph so it
shows up in two columns. Change this paragraph so it shows up in two
columns. Change this paragraph so it shows up in two columns. Change
this paragraph so it shows up in two columns. Change this paragraph so
it shows up in two columns.

Change this paragraph so it shows up in three columns. Change this
paragraph so it shows up in three columns. Change this paragraph so it
shows up in three columns. Change this paragraph so it shows up in
three columns. Change this paragraph so it shows up in three
columns. Change this paragraph so it shows up in three columns. Change
this paragraph so it shows up in three columns.

Problem Eight: Tables

Use the table feature of your word processor to create a table from
the following information:

Name Address City Phone
Barney  11 Flint Cir. Bedrock 111-1111
Fred 12 Flint Cir. Bedrock 222-2222
Bert 123 Sesame St. Sesame 333-3333
Ernie 123 Sesame St. Sesame 333-3333

Use the table commands.  This is different than formatting with tab
characters!  The grader will be checking for a table.

Problem Nine:  Graphics

Insert a small picture in the space below.  Use an existing graphic or
create one of your own.

Problem Ten:  Saving and Printing.

Save your document for future reference.  Print a copy of it and hand
it in to your lab instructor.
```

7 Vocabulary/Important Ideas

Word Processing A type of software that specializes in handling text. Word processing programs typically contain commands for handling and formatting text documents.

Insert/Overwrite Modes Most word processors allow you to choose one of these modes. When you are in **insert** mode, any text you type is inserted into the document at the cursor position. *Overwrite* mode also types text at the cursor position, but it writes over the top of existing text, much like a typewriter with correcting tape. Most experienced word processor users prefer insert mode for most of their work.

Text Editors A classification of word processing software characterized by its low cost, ready availability, tendency to work only in ASCII format, and inability to do high-powered formatting.

ASCII **A**merican **S**tandard **C**ode for **I**nformation **I**nterchange. A standard convention used to encode text, numbers, and common punctuation in numeric format so they can be stored in a computer's memory. Nearly all computers and programs can work with some form of ASCII. Text editors are designed especially to work with ASCII-based documents.

Integrated Packages Programs that contain all the major applications within one "super application". These programs are useful, but often lack some of the more advanced features of full-fledged application packages.

WYSIWYG **W**hat **Y**ou **S**ee **I**s **W**hat **Y**ou **G**et. A capability often found on higher-level word processing programs. The screen mimics the output of the printer, so the typist can see pretty much what the final output of the document will be.

Proprietary The term *proprietary* is frequently used when discussing software to denote a certain idea that is particular to a specific brand of software. When a program uses a proprietary scheme to save word processing documents, for example, other programs may not be able to read these documents without some kind of translation.

Desktop Publishing A classification of word processing software that concentrates on incorporation of graphics, powerful formatting, and development of complex styles including newsletters, signs, and pamphlets.

Style Sheet In desktop publishing, a template that specifies how a certain type of document will be created. Style sheets are used to define a uniform look and feel for documents of the same general type. For example, a company might issue a standard style sheet for intra-corporation memoranda. Many high-end word processors incorporate this feature. Sometimes style sheets are referred to as templates.

Scroll Bars Horizontal or vertical bars which indicate the cursor position in a document. Usually scroll bars can be used with the mouse to facilitate moving through the document.

Cursor A small mark on the screen, usually a rectangle, underline, or I-shaped design. The cursor indicates the exact position within the document (and memory) where any commands and typing will be executed.

Save The *Save* command saves a document without prompting for the file name, unless the file has never been saved before. If this is the case, it invokes a *Save As* command instead.

Save As This command *always* prompts for a file name. It is used when you want to save the changes to file without changing the file already saved on the disk.

Load (or Open) This command prompts the user for a file name, then loads the document into the application.

Print A *print* command is used to send a copy of the document to the printer.

Print Preview This command is especially useful in non-WYSIWYG environments. It allows you to see a preview of the document exactly as it will be printed. It is often a good idea to invoke this command before you print a document, to be sure it will turn out exactly as you plan.

Block Manipulation The process of defining a section of text so it can be copied, pasted, or otherwise manipulated as one unit.

Copy A **copy** command takes a block of text and copies it to a memory buffer *without* removing the original text. Used to *duplicate* sections of a document.

Cut This command copies a block of text to a memory buffer, and removes the original text from the document. Used to *move* sections of a document.

Paste This command takes the block of text last placed in the buffer by a cut or copy command, and inserts it into the document at the current cursor position.

Formatting The process of defining how a document will look. Formatting can occur at the character level, as well as at the paragraph and page level.

Character Attributes The special modifications to letters, such as **boldface** and *italic*

Font The combination of character set and size that defines how an individual character looks. Most word processing packages allow the user to choose from many fonts.

Toggle A command is referred to as a *toggle* if repeated execution of the command causes something to switch between two modes. Insert and Overwrite modes are good examples of toggles. Often character attributes are also considered toggles.

Point A point is a type setter's measurement of character size. Officially, there are 72.25 points to an inch.

Justification The way the lines of text are arranged on the page. The usual options are left-justified, right-justified, centered, and both-justified.

Left-Justified The text is lined up so that the left margin is even. The right margin will not be even in left-justified text.

Right-Justified The text is lined up so that the left margin is ragged, but the right margin is even. Often used to line up dates and return addresses on business letters.

Both-Justified The text is lined up so that both the left and right margins are lined up, as in a newspaper or magazine.

Centered The text is lined up with an equal distance from the left and right margins. Usually used in headlines.

Word Wrap A behavior of word processing programs which automatically moves words too large to fit the current line onto a new line. Eliminates the need to press "return" at the end of each line.

Headers, Footers Special areas at the top and bottom of word processing documents. These sections are reserved for information that will appear on *each page* of the document. Usually page numbers, document name, or document author will be in the header/footer area. The footer is also useful for holding footnotes.

Landscape Mode Documents in this mode print the long part of the page horizontally, as in a landscape painting.

Portrait Mode Documents in this mode print the long part of the page vertically, as in a portrait painting.

Table A section of a document organized into rows and columns. Higher-end word processors often have a number of tools to help make tables easier to create and manage.

Column Vertical separation of text into two or more sections. Newspapers and newsletters are often arranged in columns. High-end word processing programs and desktop publishing programs usually include some tools to make column manipulation easier.

Spell Checker A feature of higher-end word processing programs that compares each word in a document to a dictionary of proper spellings. Most spell checkers "guess" which word the user was trying to type and give the user some guesses to choose from.

Grammar Checker A feature in word processing programs that checks a document for common grammatical errors. Grammar checkers can also grade documents for readability and complexity. Sometimes grammar checkers are separate programs.

Outline Editors A feature or program that easily enables the user to create and manipulate outlines. Most of these programs allow you to hide the body text so you can see and modify the subject headings. The associated body text is automatically moved with the appropriate heading.

8 Summary

Word processing programs are a type of software that make it easier to create and modify text documents. Word Processing applications are organized into a number of categories according to their complexity: Simple programs that manipulate ASCII are called Text Editors. More complex programs that feature formatting commands are called Word Processors. Some word processors are included in integrated application packages, which also feature other application programs. Such packages are convenient, but may not have all the features of larger programs. Full-featured word processing programs contain many options for formatting text and documents. They also might contain special utilities for more complex formatting and composition. Desktop publishing programs are designed for more complex formatting, especially the integration of text and graphics.

Most word processing programs contain the same types of commands, although the exact ways to access these commands may vary. You will almost always see file handling commands, including commands to Load, Save, Save As, and Print. Frequently, you will also see commands for block manipulation, including Copy, Cut, and Paste. More advanced programs may contain special commands for formatting characters and paragraphs, as well as other commands to deal with tables, columns, and lists. The fanciest word processing programs may also contain commands to assist with composition, such as spelling and grammar checkers and outline editors.

9 Review Questions

Q. 3 Which type of program would you use to check the values of a config.sys file? (NOTE: config.sys is a special file in ASCII format that is sometimes modified by programs)

(Answer on page 4-23.)

Q. 4 Which editing mode (insert or overwrite) would be better in the following situation?

I have the word REFUME on my document, and want to change it to RESUME.

(Answer on page 4-23.)

Q. 5 Could the data in a word processor be copied to ROM instead of RAM? Wouldn't this be more permanent?

(Answer on page 4-23.)

Q. 6 If you turn off your monitor while a document you have not saved is on the screen, is the document lost?

(Answer on page 4-23.)

Q. 7 Imagine you have to write a term paper. You have WordPerfect for Macintosh, Microsoft Works, and SimpleText installed on your computer. You don't know any of these programs well. Which one would it be worth your time to start learning?

(Answer on page 4-23.)

Q. 8 (Invasion of the acronyms!) Is WYSIWYG related to GUI?

(Answer on page 4-24.)

Q. 9 If you are not sure what the file name of a document is, which command might you use to save it, Save, or Save As?

(Answer on page 4-24.)

Q. 10 Which command usually occurs first, Copy or Paste?

(Answer on page 4-24.)

Q. 11 What are some other names for the buffer in block manipulations?

(Answer on page 4-24.)

Q. 12 Is a font and a typeface the same thing?

(Answer on page 4-24.)

Q. 13 If you know a document is going to require footnotes, what feature will you look for in the program you choose for creating that document?

(Answer on page 4-24.)

Q. 14 If you are creating an outline, would you use a numbered list or a bulleted list?

(Answer on page 4-24.)

Q. 15 If you put a color graphic in a document, will you be able to print out the document?

(Answer on page 4-24.)

Q. 16 Will spelling checkers catch **all** your spelling mistakes? Why?

(Answer on page 4-25.)

Answers to Questions

1. If you have COPIED the original block of text, it is now in the buffer, but the original is also still on the document page. So in order to get 100 lines, you now only have to paste 99 times. If you had CUT the original phrase instead of copying it, it would exist in the buffer, but NOT on the screen. In this case you would have to copy 100 times to get 100 lines on the screen.

2. When you want to MOVE information rather than DUPLICATE it, you want the behavior of a CUT command. In this instance, you want the information to be taken from the screen and copied to the buffer. You can get it back from the buffer with a PASTE command.

3. Generally, if you want to modify or examine an ASCII file, a text editor is all you need. You could probably use a more complex program, but you would need to wait longer for it to load, and you would need to be careful that if the file was modified and saved, it was saved in ASCII format. A text editor nearly always saves in straight ASCII. Other programs do not automatically do so.

4. Either mode would work, but overwrite would require fewer keystrokes. If you are in insert mode, you would first position the cursor over the F, then hit the S key. Your word would now be RESFUME. You would still need to delete the F, so you would move the cursor over it and hit the DELETE key.

   In overwrite mode, you would still move the cursor over the F and type an S, but this time the F would be replaced by the S.

   Finally, if you are in insert mode, it may not make sense for you to move to overwrite mode just to replace one letter. It's really a matter of personal preference, but make sure you understand how both modes work so you can make an informed choice about what your preference is.

5. Remember, the difference between RAM and ROM is that you cannot write information to ROM. Sure, ROM keeps its value when the computer loses power, but you cannot write directly to it. RAM is where data goes. Use secondary storage media (like the hard drive and floppies) to make copies of your data.

6. No. The stuff you see on the screen is just a **copy** of the data. It really exists in the RAM of your computer. As long as power is getting to that RAM, the data is still in your computer's memory. You don't even need a monitor, technically! (I know of a typist who is blind. She has voice output software that lets her read back her documents. She doesn't have a monitor on her system. She finds this discourages people from using her computer without her permission!)

7. WordPerfect is a full - featured word processor, Microsoft Works is an integrated package, and SimpleText is a text editor. Knowing this, you have some idea what to expect from the programs. WordPerfect is more likely to have an outline editor, support for footnotes, and spelling and grammar checkers. It would probably be the most difficult to learn, but these features might make it worth the effort. The time you spend learning the advanced features may be saved by not having to do all the spell checking with a dictionary.

As usual, your personal preference is the key. If you already are comfortable with an integrated package, it might make more sense to use it. The best time to learn a more complex program is when you are not pressed for time, but you do have a project in mind.

8. GUI, as you remember, refers to a Graphic User Interface. A GUI is designed to make it easier for graphics to be presented on the screen. WYSIWYG relies on graphics technology to simulate the printed page on the screen. A word processor in a GUI environment is MUCH more likely to have WYSIWYG than a similar word processor in a command line environment.

9. Save will save the document with the file name it currently has. It will not prompt you for a new name unless the file has no name. Save As would be a better option here, because you would get a chance to see what the file name currently is.

10. Copy usually comes first, because you first copy a block into the buffer, and then you paste it back into the document.

11. The buffer is also sometimes referred to as the clipboard or copy buffer.

12. Technically, no. In typesetting, a font is a combination of typeface, which is the style of the letters, and size. In word processing, the terms are often used interchangeably.

13. Obviously, you need a program that can handle footnotes. The tricky thing is that sometimes footnotes are hidden in another feature called footers. You might also check to see if your program has a way to automatically create a bibliography based on your footnotes.

14. Generally, outlines have a prescribed format. They usually look something like:

    ```
    I.
      A.
        1.
        2.
        3.
      B.
        1.
        2.
        3.
    ```

    If you think about it carefully, you will see three different levels of numbered lists! Generally, there will be a way to tell the program which numbering format you want to use. Often, there will even be a special list numbering option for outlines. If you are dealing with outlines, you may want to use an outline editor, available in more powerful programs. This feature probably will handle the numbering for you automatically.

15. This depends on how your computer is set up, and whether you have a printer that can handle color. Even if your printer cannot do color, you might be able to print out the graphic as part of your document. The graphic will be black and white in this case. Check the print preview to see how your document will turn out. Sometimes even color printers have the color turned off to save ink. You may have to play with the printer configurations to make the color turn up properly.

16. Sometimes you will use a word that is correct but used in the wrong context. A spelling checker had no trouble with the poem presented in the text, although it was obviously wrong to human readers. Spelling checkers often also have problems with jargon or obscure terms. The chapter of this text on the Internet caused all kinds of problems, because many of the terms we described did not exist when the spell checker we were using was developed!