

TEC 923

Introduction to Computers for Teachers



Fresno Pacific University

Central Processing Unit

All desktop computers have a CPU (Central Processing Unit) enclosure. This box houses the main circuitry and components of a computer. Memory, storage, a cooling fan and places to plug in the power cord, keyboard, mouse, printer, monitor and other accessories are contained inside the CPU box. There are several styles of enclosures, based on function and style. Some CPUs also have a DVD / CD-ROM drive built in but they are becoming more the exception rather than the norm.



The tower style of computer typically sits under or next to a desk.

All-in-One desktop computers contain the CPU, monitors and speaker(s) in one unit.

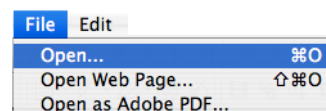
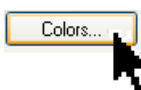




The Mouse


Input is the gateway from the outside world (you and all your knowledge) and the computer. Through input devices, you tell the computer what to do. There are two indispensable devices for this; the mouse and the keyboard. You use a mouse to translate your hand movements into movements of an on-screen pointer. By controlling the pointer with the mouse, you are able to input information and instructions by selecting, rather than typing. The following tasks can be done using a mouse:

- Move a cursor
- Select and change information
- Choose items from



Glossary

Mouse: A small, hand-controlled input device that relays signals to the computer which moves a corresponding pointer on the monitor screen.

Icon: A small graphic or pictorial representation of an idea or action. Icons are used to save screen space and give the user labels of commands and options within a program (i.e. an icon such as  tells the user to “click here and I will print out your document”).

Point: The act of moving the mouse cursor to an area (usually a word or icon). The tip of the arrow is the ‘hot spot’, and must be touching (on top of) the word or icon to properly ‘point’ to that object (ie the cursor is on the number 3.)

Click: Pressing down, then releasing the mouse button (the left side button on a Windows mouse). On a Macintosh, there is only one button (with a right and left side); however the same functionality of a two or three button mouse is achieved by holding down the control key.

Double - Click: Pressing down, then quickly releasing the mouse button (the left side button on a Windows mouse) twice in rapid succession.

Right - Click: On a Windows computer, clicking (pressing down, then releasing) the right side mouse button. On a Macintosh, control-click performs similar actions.

Drag: Pressing down and holding down the mouse button (the left-side button on a Windows mouse) and moving the mouse (and the cursor) to a new physical location. The action is click - move - unclick.

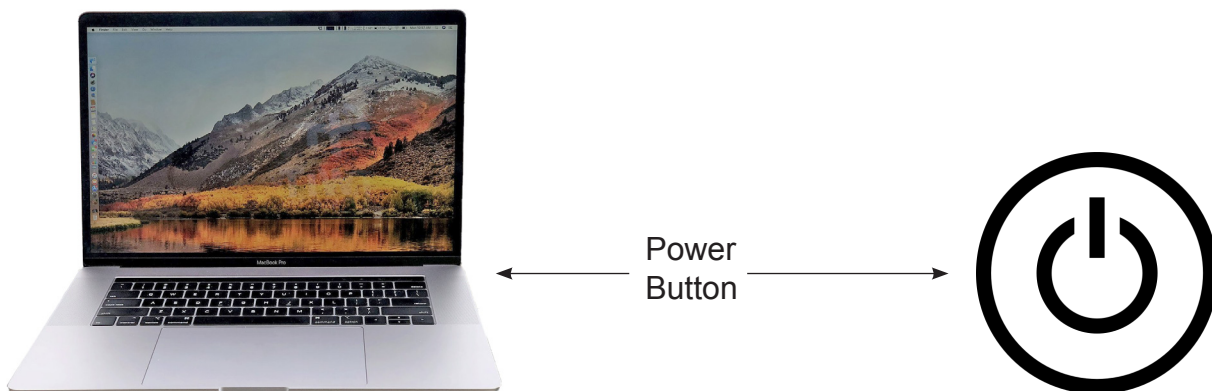
Optical Mouse: Some mice use an optical sensor instead of a rolling mouse ball to sense movement. These mice are more accurate (and forgiving) than older mice.



How to Boot Up (Start the computer)



Now you are ready to learn how to **boot up** (to load an operating system into the computer's random access memory) the Macintosh computer. To boot up a Macintosh computer, press the power button, located on the upper right hand corner of a laptop or the rear bottom-left corner of iMacs. The power button is round with a short vertical line at the 12 o'clock position - this is the standard icon for power on/off. Sometimes peripherals, such as monitors or printers, have a separate on/off switch.

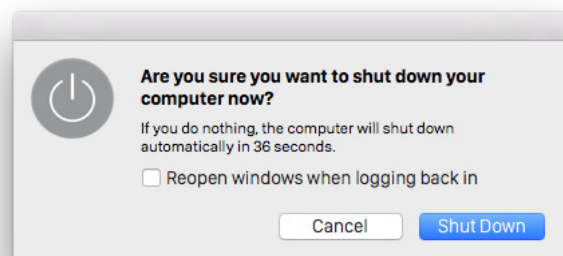
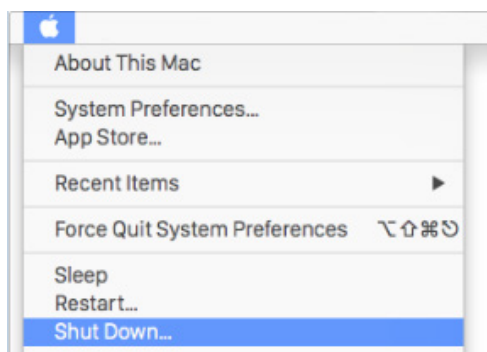


The operating system starts loading from the hard drive into the RAM when the power button is pushed. After the operating system is loaded, the computer performs a check to make sure all peripheral hardware (input, output and storage devices) are properly attached to the computer. As soon as all devices are verified and the computer has booted, it is ready to accept input from the user.

How to Shut Down (Turn off the computer)



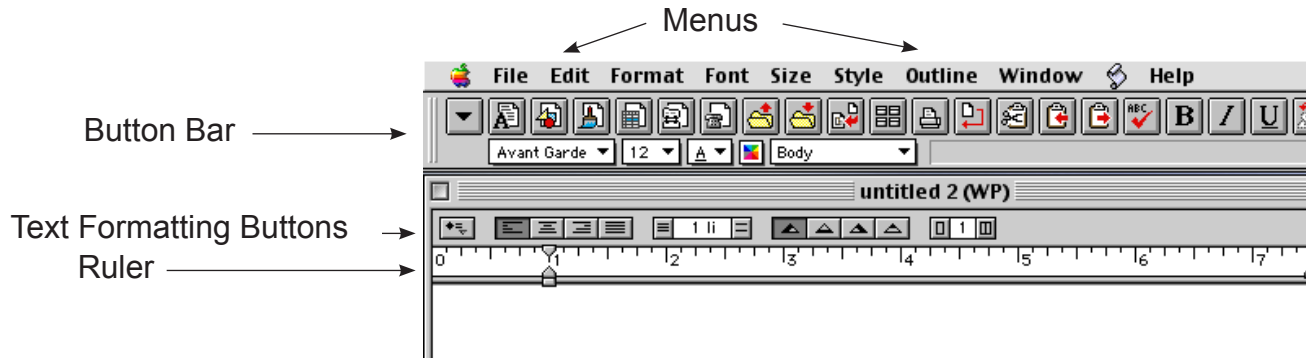
Shutting down the computer turns the system off completely. To safely shut down the Macintosh computer, click on the Apple Menu and select Shut Down. The computer will completely shut down all open windows and turn itself off. You may also press the Power Key and select SHUT DOWN from the dialog box.





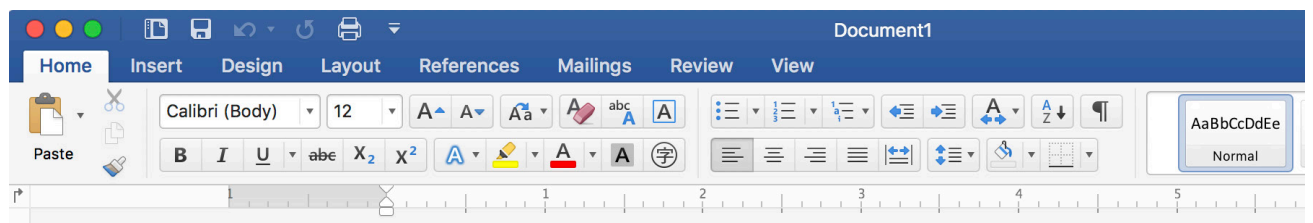
Word Processor Controls

This is a generic word processor window.

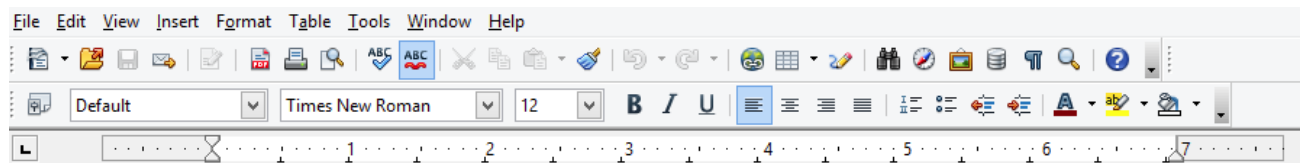


All word processors share common traits; controls for adjusting the position and formatting of text, setting tabs and spacing, inserting graphic elements into a document. Compare the three word processing programs below, Microsoft Word, OpenOffice and Google Docs. Notice that they have many similarities. Learning one word processor will allow you to use other word processors; the underlying concepts and controls are all the same. Some programs may have more features than others, but the most often-used capabilities are shared by all.

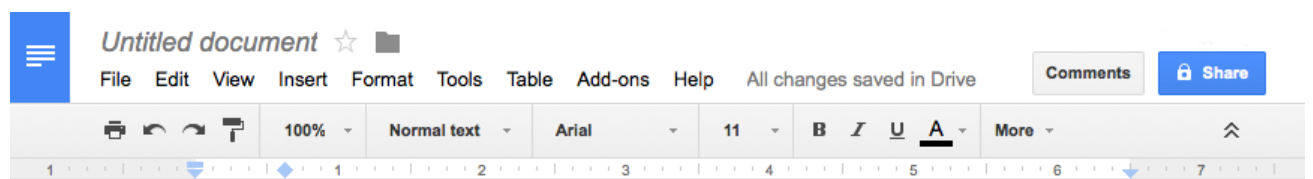
Microsoft Word 2018



OpenOffice.org Writer



Google Docs Document





Project 9: Word Processing

Learning Objectives: Setting the margins

Setup: Open a new word processor document, type in several lines of text.

Step 1: Note that the default paper size is 8 1/2 x 11 inches, the size of a standard sheet of paper. The default for most word processor documents is a 1 inch margin on all four sides, reducing the working area to 6 1/2 x 9 inches.

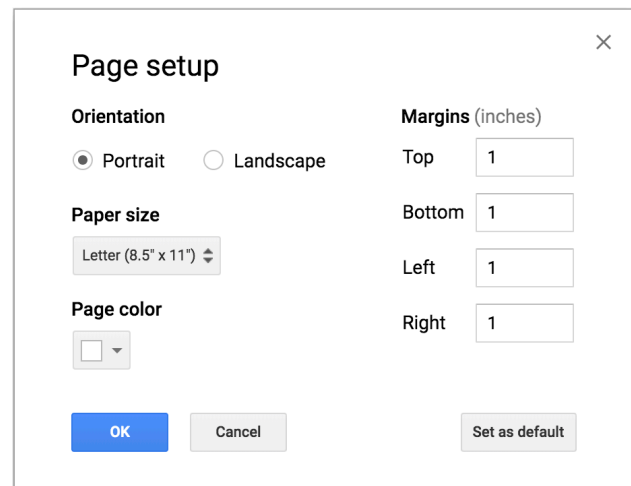
Step 2: **Microsoft Word** - From the FORMAT menu, choose DOCUMENT...
Google Docs - From the FILE menu, choose Page Setup. . .
Apple Pages - Click the DOCUMENT icon at the top right

Step 3: You will see the four margins and their settings: top, bottom, left and right. All four indicate 1 in. Clicking in the 'TOP' text box selects that setting. Using the TAB key will move the cursor from setting to setting. Change the LEFT margin to 2.

Step 4: Click the OK button or press ENTER on the keyboard. You will now see your document again, with a 2 inch left margin, perfect for binders!

Step 5: Practice! Try changing the margins in different combinations and see what happens.

Step 6: **PRINT a copy of your practice page to return with your packet.**



You only have to type in the number, not "inches". For a half-inch margin, type .5 and for a quarter-inch margin you would type .25. You can set the margins to 0, but most printers can not print to the edge of the paper.

1 = 1 inch margin

.75 = 3/4 inch margin

.5 = 1/2 inch margin

.25 = 1/4 inch margin



Project 13: Class Survey Hair Color

Learning Objectives: Create a spreadsheet with a pie chart.

Sometimes no formulas are needed in a spreadsheet. Here, a group of students was surveyed and their hair color recorded in a simple spreadsheet. The information was then translated into pie charts to present the information visually.

Setup: Open a new spreadsheet document

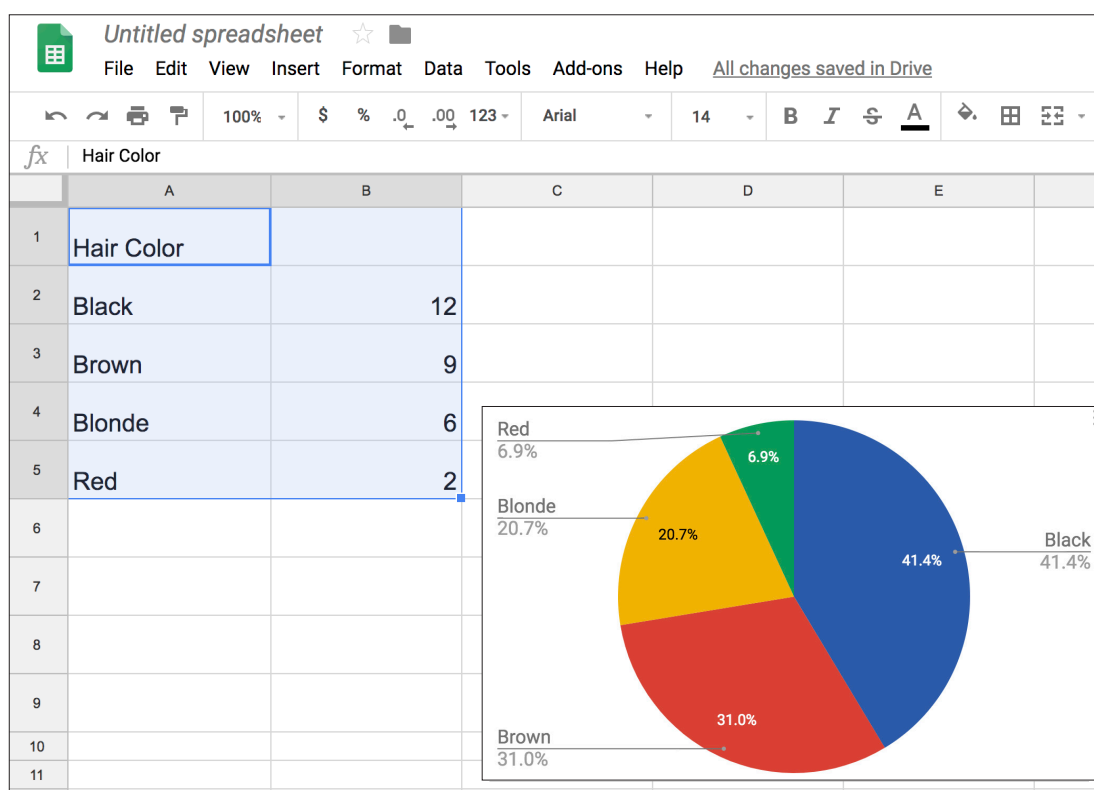
Step 1: In cell A1, type Hair Color.

This will be your title. Press Enter (on the numeric keypad) Cell A2 should become the active cell. If it is not, click in cell A2 to select it.

Step 2: Type in several different hair colors, one in each cell, as shown below. Pressing Return will select the next cell down. Feel free to use the examples presented in the sample below, if you wish, or create your own.

Step 3: Click in cell B2 to select it. Type in numbers of students with the hair color indicated in the same row.

Step 4: Using the mouse, drag to select cells A1 to C5 of your spreadsheet.



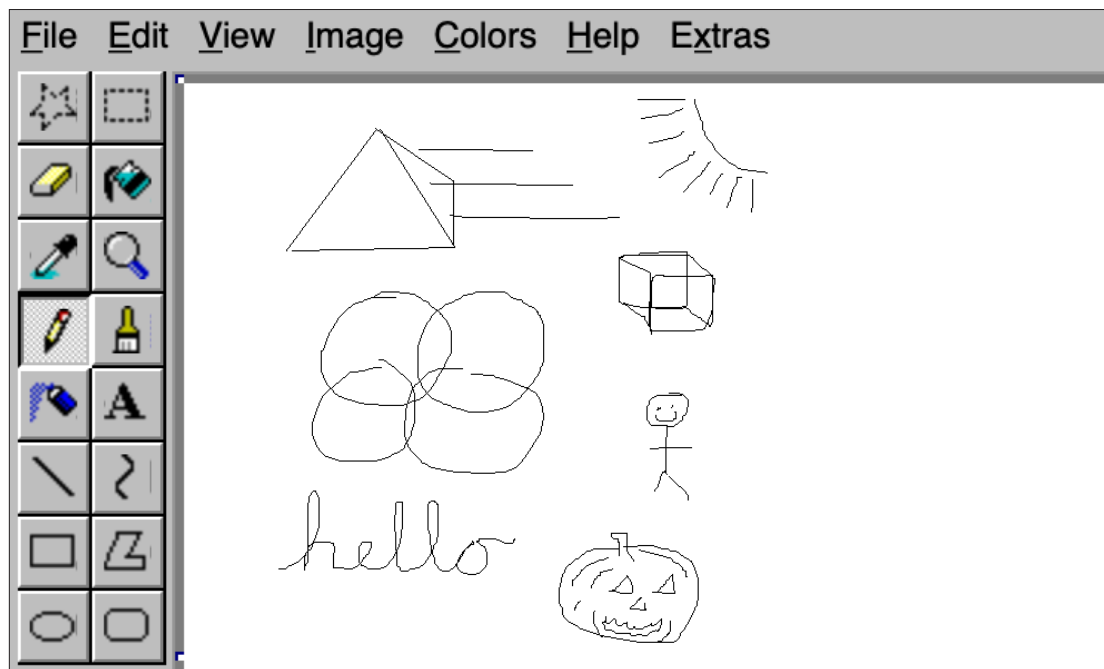


Project 14: Painting

Learning Objectives: Familiarize yourself with painting tools.

Setup: Go to **www.jspaint.app** The link is on the course website; jspaint is a very simple graphics program, patterned after Windows Paint. The tools are rudimentary, but share DNA with all other modern computer graphics programs.

Step 1: Play! Try out the different tools. Keep in mind that you are experimenting, so there is no such thing as a mistake! But if you are not satisfied with your results, you can go to the FILE menu and choose NEW - providing you with a "clean slate" on which to work. Spend as much time as you like doodling and tinkering around with the tools. Remember, you are not only getting used to the paint program and its tools, but handling the mouse (or using the trackpad) as well. Using a variety of tools and techniques, as below, tinker around and show me what you've got! **Doodle are good - I prefer that you don't just 'scribble'.**



Step 2: From the File menu, **Save a copy to upload to Moodle at the end of the course.**

