

Computers for Beginners, Part I

INTRODUCTION

Learning to use a computer is an essential skill that everyone who wants to be successful in today's world must learn. Before we go any further, give yourself a pat on the back for realizing that the time to learn is now. The technology is not going away and playing ostrich with your head in the sand isn't going to do you any good going forward.

Computers come in various shapes and sizes and can be used for a variety of purposes. Whether it's surfing the internet, checking email, writing a resume, applying for a job, listening to music, playing games, posting pictures of your family reunion, or just watching movies, the computer has become the all in one multimedia machine that society just can't seem to get enough of. In this lesson we will cover:

- Computer basics
- Parts of a computer (hardware)
- Computer programs (software)
- Exploring the desktop



SECTION I: COMPUTERS BASICS

Computers – a Brief History

Computers – in one form or another – have been around for many years. Up until the late 1970s or early 1980s, computers were generally reserved for large corporations or governments, certainly not something that the average person could have in their home (even if they could afford it!). The introduction of the personal computer, or PC, changed all that in the early 80s. Apple and IBM were among the pioneers of early PCs, but these devices were still very expensive and complicated to use. It wasn't until the mid-1990s that computer began to come down in price and find their way into more homes. The advent and popularity of the internet helped fuel the PC industry. According to US Census information (<http://www.census.gov/hhes/computer/publications/2011.html>) in 1984 8.2% of US homes had a PC; by 1993 that number jumped to 22.9%; by 2003 the number nearly tripled to 61.8%; and by 2011 a full 3 out of every 4 homes in America had a PC.

Types of Computers

As technology has evolved, the way we use computers has changed. To fit our changing needs, a variety of different types of computers are available.

Desktop computers are probably what most people think of when they hear “computer.” A desktop computer consists of a computer tower, a monitor, a keyboard, and a mouse. They are not very portable and are meant to be set up in one location and left there for an extended period of time. All-in-one computers are also becoming popular at home – these computers consist of a large touchscreen monitor and do not include a separate tower.

Laptop computers are another popular type of computer. Laptops are small and portable – they can be charged up and unplugged to be used on the go. Laptops are less powerful than most desktops and often have fewer high end features. Laptops don't typically come with a mouse; instead you use a *touchpad*. For our purposes today, we will focus mostly on desktops and laptops running Windows 7 (or older).

Tablets are the newest type of computer. Tablets are portable handheld devices that use a touchscreen interface – no keyboard or mouse is needed. They typically don't allow you to do the more complicated things that a laptop or desktop provide, but are wonderful for simple tasks and great for people who are on the go. Tablets are popular for reading eBooks, playing games, and running apps. Examples of tablets include devices like the Apple iPad, Google Nexus, Samsung Galaxy Tab, and Kindle Fire.

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SECTION II: PARTS OF A COMPUTER (HARDWARE)

Hardware refers to the parts of your computer that can be seen and touched. In this lesson we will discuss four main types of hardware new computer users will deal with:

- The tower
- The monitor
- The keyboard
- The mouse

But there are other types of hardware too! Other common hardware items include:

- Printers
- Webcams
- Microphones
- Scanners
- External Hard drives



Tower

The tower is the box that contains all the wires, chips, and circuits that makes a computer do what you instruct it to do. Any external device or media that you have is placed in or connected to the tower. Laptops, tablets, and smart phone have a lot of the same parts that a typical tower has—they are just more compact to fit into a smaller space. Don't worry about what's inside the tower just yet (we'll cover that in *Computers for Beginners, Part II*). Computer towers have various drives, ports, and buttons that all serve specific purposes. Here are some of the things you may find on your tower.

CD/DVD Drive

The CD/DVD drive is where you insert a CD or DVD to play or watch on the computer. Most desktop computers still have CD and DVD drives, although many laptops no longer do. The disc drive, sometimes called an "optical drive," may also allow you to *rip* and *burn* CD's & DVD's. *Ripping* is the process of taking data stored on a disc and transferring it to the computer. *Burning* is the act of taking data stored on the computer and putting it on a blank CD or DVD.

USB and Memory Card Slots

Every PC and laptop built in the past decade will have several USB ports. These small rectangular ports are for connecting other pieces of hardware to your PC. The most common thing that you will plug into a USB port is probably a mouse, although most other hardware such as digital cameras, scanners, flash drives, printers, and external hard drives plug into the same USB port as well.



Headphone and Microphone Ports

Desktops, laptops, and even many tablets also have small circular inputs for headphones (or speakers) and/or a microphone. Sometimes the headphone jack will be outlined in green and the microphone jack will be outlined in pink. Color coding the various inputs makes it easier to know what goes where.

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The Power Button

The power button is used to turn on a computer. It is usually accented by an LED light that remains lit when the computer is on.

Tip:

Avoid turning your computer off via the power button whenever possible! This could cause data to be lost. Think of this way: you don't pull the key out of your car without putting it in park first – there is a certain process that you have to go through before completely turning the machine off. The same is true for your computer. Even though it may not appear the computer is running and you may have closed all of your programs, there are still “invisible” operations going on such as saving your settings, sending and receiving data, and so forth. Cutting these actions off in mid-stream can cause the data to be lost or corrupted. The best way to turn off your computer is to go to the start button, select “shut down” and choose one of the options listed.

The Monitor

Although the monitor on a desktop computer lacks a television tuner, it looks and functions just like a TV. Everything that you do with a computer will be displayed visually on the monitor. The monitor may have some additional buttons on it along the bottom or side – these can be used to adjust the settings of the screen (brightness, contrast, etc.) just like a TV.

Laptop screens typically don't have any additional buttons on them.

Tablets and other touchscreen devices will allow you to interact with the device by touching the screen with your finger or a stylus (a special pen used for touchscreens). While keyboards and mice may be attached to touchscreen devices, your finger or stylus will be the primary ways to input commands.



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Keyboard

The keyboard is one way to provide input, or instructions, to a computer. Except for a few additional keys, the keyboard is laid out just like a typewriter, so if you are familiar with a typewriter this should be an easy adjustment.

At the bottom of your keyboard, on the left and right sides, you'll see a key labeled *Shift*. If you hold down the Shift key while typing a letter, it will make a capital letter. When you have a key with two things on it (for example the ! and 1 key), pressing the Shift key tells the computer to type the character on top rather than the one on the bottom.

If you need to turn on capital letters for more than just one letter, the *Caps Lock* key will turn on capitals until you turn them off by hitting the Caps Lock again.

There are also two wonderful keys for when you make a mistake. *Backspace* will back up over the letter you just typed. *Delete* will delete the letter just in front of the cursor.

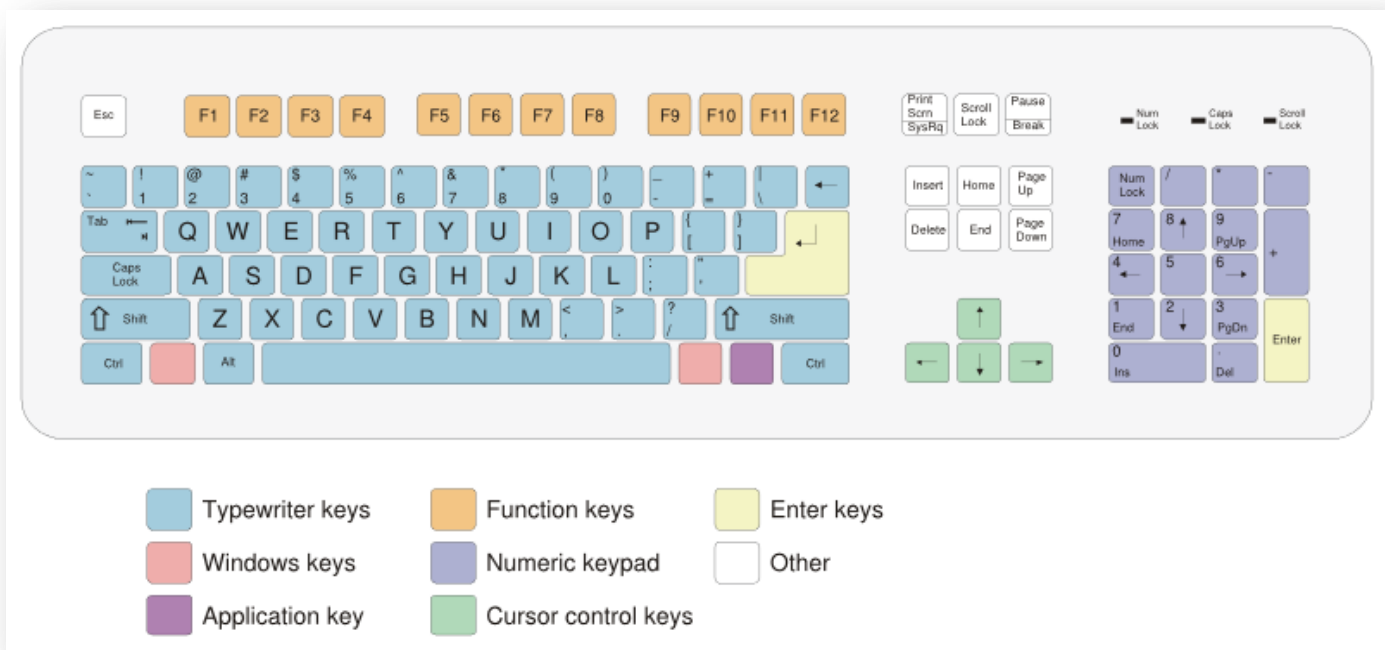
The *Space Bar* does just what you would imagine; it puts a space between letters.

There are however a few special buttons which distinguish a computer keyboard from a typewriter keyboard:

Page Up and *Page Down* will allow you to move up and down on the page without using the mouse.

Home will take you to the beginning of a line and *End* will take you to the end of a line.

When using the keyboard, you should rest your fingers on the *home keys*. Hold your hands with your thumbs on the space bar, index fingers on the "F" (left-hand) and "J" (right-hand). Then let your fingers naturally fall so that each rests on top of the next key along the same horizontal row.



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Mouse

Your mouse will generally have two to three relatively simple kinds of parts: the body of the mouse, the mouse buttons (left & right), and occasionally a little button shaped wheel in the center which is called a scroll wheel.

The body of the mouse has a little roller ball or laser in it that keeps track of which direction you are moving the mouse in. When you move the mouse on the desk it will move your pointer around the screen in the same directions. (This only works when you keep the mouse on the desk or mousepad, so do not to lift the mouse up in the air!)



The pointer (technically called a *cursor*) will change appearance depending on where it is on the screen.

Laptops typically don't come with mice; instead you use your finger on the *touchpad* to control your cursor. This can take some getting used to, especially for new users. You can always buy a mouse separately and connect it to your laptop via a USB port.

Hold Your Mouse

Bad news lefties – the mouse is designed for right-handed people (you can buy customized left-handed mice, and you can also set up your mouse to work better with your left hand). To properly hold the mouse, press the bottom of the mouse into the lower palm of your hand. Your thumb should be on the left side of the mouse and ring finger and pinkie finger should sit on the right side (this is what will give you control). Your pointer finger should rest on the left mouse button and your middle finger on the right mouse button.







Click Your Mouse

It's called a "click" when you press a mouse button because the mouse makes a light clicking noise. Keep your hand still when you click and lightly press down once on the button that you need (usually the one on the left). A *double click* is simply how it sounds— two clicks in quick succession. Both of these clicks will be very important when you start navigating through programs and menus on your computer.

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Depending where your mouse is on the screen, the cursor will look different. Below is a chart showing the different changes your cursor will go through.

			
Standard Pointer The mouse cursor typically looks like this as you move it around the screen.	I Bar or Text Cursor Indicates standard text, or an information field in which you can enter text.	Hand Pointer Indicates a hyperlink that <i>links</i> you to a page with related information.	Hourglass or Circle Indicates the computer is waiting for something to load, such as a website or program.

In all of these cases, you will use the left button to click on any item you want to select. If you select a link, clicking will open that link. If you click in a spot where you can input text using the keyboard (for example in a blank Microsoft Word document, in the Google search box, or in a blank email), clicking the left button will place a flashing line in that box showing you it's OK to start typing.

Tip: You will often need to double-click to open a program or file on your computer. When you're on the internet, or inside a program, a single click will usually do.

As far as mouse buttons go, the left button is the one you'll use the most. You will use the left button to click on items you want to select. Don't worry too much about the right button; it's mostly used to open a small window with special commands which you won't need right away. The window can vary, depending on what program you're using, but if you get a small window that pops up when you are trying to click on something, chances are you clicked the right mouse button by mistake. To make the little window go away, move your mouse so that it is somewhere on another part of your screen, then click the left button.

The *scroll wheel* is between the left and right buttons. You do not need to use the scroll wheel, and in fact, some mice will not have them. The scroll wheel can be used to move the page up and down when you are on the internet or in many software programs. Avoid clicking on the scroll wheel however (many people mistakenly think the scroll wheel is the only "button" on the mouse and click it expecting a reaction).

Most people have a little trouble their first time using a mouse—chances are it's going to feel a bit weird. Here are a few simple tips if you continue to have difficulty:

- Don't pick the mouse up off the desk when you are clicking (it is OK to pick up and reposition the mouse if you run out of room, however).
- If you have a mousepad, use it. This is good if for no other reason than to give you a rough idea of how much space you should be using to navigate around your screen.
- Hold the mouse firmly in place with your thumb, ring finger, and pinkie when you click.
- It's better to move slowly than too fast.
- If you are using a touchpad on a laptop, you may be able to tap the pad rather than clicking the left mouse button to get the desired reaction. You can also double tap the touchpad to achieve a double click reaction.

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SECTION III: COMPUTER PROGRAMS (SOFTWARE)

Now that we have an understanding of hardware, we will learn about software. If we think of hardware as the physical objects you can touch on your computer – the keyboard, mouse, printer, etc. then it's easy to understand that software is the stuff you can't touch – the programs that operate and execute tasks on your computer. There are millions of different types of software available for computers.

Operating system

The operating system is the most important program that runs on a computer. The operating system performs basic tasks like recognizing keystrokes and other input, sending visual output to a monitor, keeping track of files, and controlling disk drives. To put it simply, the operating system is the brain of the computer. Most computers use some version of Microsoft Windows as their operating system. Apple's OSX, Google Android or Chrome, and Linux are other popular operating systems.

We have focused mainly on Windows 7 operating system today, but most Windows operating systems before Windows 8 are roughly the same.



Other types of software

As mentioned above, there are millions of different types of software programs you can install on your computer. For most new users, the most important types of software (besides the operating system itself) include:

- **An internet browser.** This is the program that will allow you to connect to the internet and view web pages. Popular browsers include Internet Explorer (which is pre-installed on all Windows computers), Firefox, Chrome, Safari, and Opera. An important thing about browsers is they are always free.
- **A word processing program.** A word processing program is what you will use to type up letters, resumes, and other documents. Many computers come with some sort of word processing software preinstalled (such as WordPad, Microsoft Works, etc.). You can also purchase word processing software such as Microsoft Word separately.
- **A media player.** Most computer users will at some point want to listen to music or audio or watch a video or DVD, so you will want to make sure you have a media player installed. Windows computers come pre-installed with Windows Media Player which allows you to listen to music, play videos, and even rip and burn CDs. Windows Media Player is free but there are many other media player programs out there which may offer more features.
- **Anti-virus software.** Anti-virus software is used to prevent viruses and other malicious files from being installed or taking over your computer. Most new computers come pre-installed with some sort of anti-virus software, although it may only be for a trial period (30, 60 or 90s days). You can purchase anti-virus software or you can find some free programs online. Two important things to keep in mind though: you must keep your anti-virus software up to date at all times as there are constantly new threats being discovered and just because you have anti-virus software running doesn't mean you can't get infected – you still have to be careful about what you download from the internet and watch websites you visit.

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SECTION IV: UNDERSTANDING THE DESKTOP

The Desktop

The *desktop* of a computer serves the same purpose as your office desk at home. The difference, of course, is that it is digital! The desktop is usually the first screen you see when you start your computer (or, if you're using a library computer, after you log on).

Icons

The first thing most people notice on the desktop is the small pictures or logos (called *icons*) that are spread around the screen. These icons typically show you some of the programs installed on the computer. They could also be shortcuts to directories or files on the computer (we discuss this in much more detail in *Computers for Beginners, Part II*). Double-clicking on an icon will open, or launch, the program.



Start Button

The start button is located on the lower left hand corner of the screen. By clicking on the start button, you get the start menu – here you will find more lists for programs and features installed on the computer. The start button is a good, well, starting point for getting into just about anything you want to do with the computer. It's also a good ending point when you are ready to turn your computer off; click start and choose an option off the shutdown menu (lock, sleep, restart) to execute the desired task. No matter what program you are in, the start button (and task bar) are always visible under normal circumstances.



Task Bar

The task bar stretches across the entire length of the bottom of your screen. It begins with the start button and ends with the date and time on the right hand corner. In the task bar you may have *pinned* programs; these may be popular programs that you use frequently, such as Internet Explorer. The task bar is also where all your open programs can be found.

Notification Area

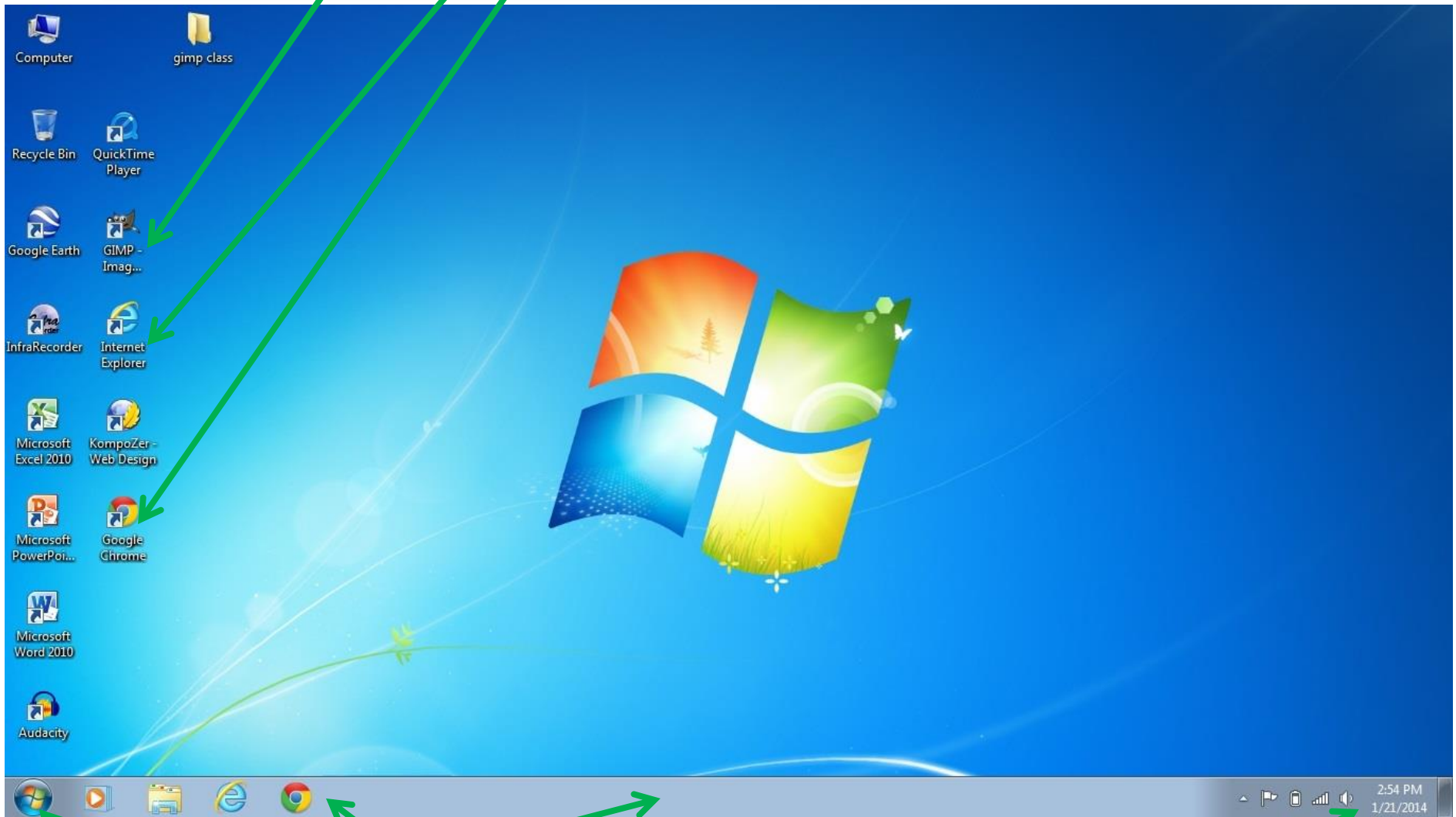
At the far right end of the task bar you will find the current time and date as well as several other small icons and settings. Some of the important things to look for in this area include your volume control, power settings (or battery life if you are using a laptop), and internet connection status. You may also occasionally get a small bubble that pops up from this area telling you about important updates you need to download or install on your computer, the status of your anti-virus software, and other system notifications.



For a more detailed look at a real desktop, see the next page of his handout.

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Icons and shortcuts for programs installed on the computer and other common tasks.



The start button.

The task bar (note the pinned programs)

The time and date as well as power, internet connection, and other settings.

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SECTION V: MANAGING WINDOWS

Look to the taskbar

Every application that you open opens in a new *window*. A window is the area of the screen in which a program is displayed. You can have multiple windows open at the same time; for example, you can open Internet Explorer to do research online while you type a paper in Microsoft Word. Every window you have open will be shown in the taskbar at the bottom of the screen. In the example below you can see the pinned programs, but also note the active windows.



Minimize, Restore Down/Maximize, & Close

Every window you open will have three buttons at the top right (top left if you are using a Mac); they are *minimize*, *restore down/maximize*, and *close*.

The minimize button looks like an underscore or underline. This button will move your window to the taskbar at the bottom of the screen. Think of it like moving some papers off to the side for a moment so you can focus on something else – but not completely disregarding the original papers or putting them some place far out of reach. This is useful when you need to shuffle some work out of the way to make room for other applications.

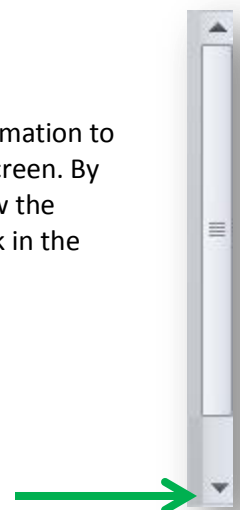


The second button that looks like a three dimensional cube (or sometimes two pieces of paper stacked on top of each other) is called the restore down button when a window is opened in full screen mode. When clicking it, the window shrinks to a smaller size, but is still visible. Once in the smaller mode, the restore down button now changes to a square and becomes the maximize button. Simply clicking this button will bring the window to full screen size.

The last button is the close button (which looks like a giant X). It does exactly what you think it does — it closes the application you have open. If you are in a program where you have made changes to a file, such as Word or Photoshop, you may be prompted to “save your changes” after clicking the close button. If you choose not to save your changes, any data you entered will be lost!

The Scroll Bar

Sometimes when you are viewing a document, or program, or web page, there will be too much information to fit on one screen. In this case, you want to look for a *scroll bar* located on the right hand side of the screen. By clicking on the upside down triangle (or down button) you can scroll further down on the page to view the entire document. To scroll back up, click on the triangle at the top of the scroll bar. Tip: Once you click in the window, you can also use the up and down arrow buttons on the keyboard to scroll.



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SECTION VI: PRACTICE

There are several software programs built in to the computer that can help you learn basic skills.

For practice using the keyboard

To work on your keyboarding skills, you may want to open a word processing program like Microsoft Word, Microsoft Works, WordPad, or Notepad. Open your favorite book or magazine to a page and begin to retype it on the computer.

You can also try websites like www.typingweb.com or software such as Mavis Beacon Teaching Typing.



For practice using the mouse

To work on your mouse skills, the best way to learn is to play a game. Most computers come pre-installed with games like Solitaire which are excellent for teaching mouse control. Try clicking on the start button, selecting programs, and then games. You can find games like solitaire, hearts, and more that are great for practicing your mouse skills.

SECTION VII: ADDITIONAL RESOURCES

Classes

The TechCenter at the Main Branch of the Public Library of Cincinnati & Hamilton County hosts over two dozen technology related classes each month. Ask your instructor today for a calendar of upcoming events or visit our web site at www.cincinnati.org/programs/ for a complete list of all Library events.

If you are liked our *Computers for Beginners, Part I* you may also find these related classes of interest:

- *Computers for Beginners, Part II*
- *Internet for Beginners, Part I*

Feel free to ask for a copy of any class handout at the Technology Center desk or talk to your instructor today.

Online

Learning Express Library offers a wide variety of interactive computer classes (Complete Microsoft Office Suite, Adobe CS3, Windows, and Mac OSX). Videos and screencasts make learning easy while quizzes help assess your progress. Free with your library card. From <http://www.cincinnati.org>, click on *Research & Homework* → *Research Databases* → *Education* → *Learning Express Library*.

Universal Class offers more than 500 classes on many topics. These classes are instructed by real teachers who guide your learning and provide feedback on your work. Learn about Microsoft Office, Web Design, Computer Basics, Business Applications, and more! Free with your library card. From <http://www.cincinnati.org>, click on *Research & Homework* → *Research Databases* → *Education* → *Universal Class*

All class resources and a schedule of additional classes facilitated by the TechCenter may be found at: <http://www.cincinnati.org/main/techcenter.html>