Introduction

The trouble most computer users face is vocabulary. The people who create computers and computer programs (also known as apps) have a habit of taking good old words that most people already know and giving them new meanings. For example, ***Windows***, or ***desktop***, or ***folder***. There are several Windows tricks that every user should memorize. These tricks will allow you to navigate on your computer faster and easier. However, before we get into some Windows tricks, we have to learn some basic computer vocabulary. Please spend a little time to become familiar with some basic computer vocabulary.

What is Windows… really!

Windows is what is known as an ***operating system***. When a computer is turned off it gets amnesia. It forgets everything. So, when it is turned on it has to teach itself how to do things again. This process is known as ***booting up***. More about that later.

Computer Memory

It turns out that computers have several kinds of computer ***memory***, or ways to store information. Some memory is permanent. Well, kind of permanent anyway. For example, stuff stored on ***hard drives*** or ***flash drives***, or ***memory cards*** is permanent (until a user writes new stuff over the old stuff). When the computer is turned off the stuff stored on hard drives or flash drives, or memory cards stays put.

Then there is ***RAM*** (Random Access Memory). This is sort of like an old magic slate where you can write or draw on the magic slate and it stays there until you pull up the cover sheet and everything disappears. RAM is similar. Words or pictures that are stored in RAM are there until the computer power is turned off, and then it disappears. The thing is that RAM is where the computer keeps everything it needs to communicate with humans and with the various computer devices like printers

Figure 1: RAM chips attached to printed circuit boards.

There is another kind of memory called ***ROM*** (Read Only Memory). ROM is actually a silicon chip that is attached to the computer ***Mother Board***. Unlike RAM, the stuff stored on ROM is put there in the factory and never changes.

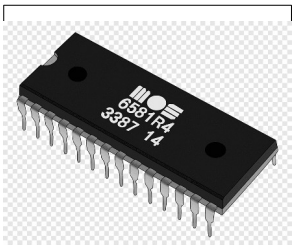

Figure 3: A ROM chip case.

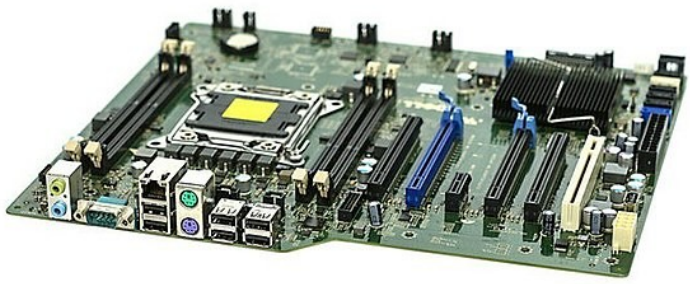

Figure 2: A Computer Motherboard.

Words, or pictures, or complete computer programs, are stored on a ***hard drive*** (or a newer ***SSD*** (Solid State Drive).

Figure 4: Hard Drive with insides exposed.

A word about hard drives. Inside a hard drive case is one or more disks that when in use are spinning at 5 thousand or more revolutions per minute. The disk is coated with microscopic iron particles that can be magnetized. There is an arm that is moved back and forth over the disk that can write, or read, the magnetized particles. Basically the computer detects whether a particular spot on the disk is either a 0 or a 1.

You, as a human, can probably count to 9 before you run out of numbers and have to start over … 1,2,3,4,...9, and then you add a 0 (10 and start over… 10,11,12, etc.

The stupid computer can only count to 1 before it has to start over… 1,10,11,100,101,110,111, etc. Each binary combination of 1's and 0's has a decimal equivalent. For example, 01000001 in binary is the same as 65 in decimal. In order for humans to be able to communicate with stupid computers (that only know 1's and 0;s) a standard code was developed. In this code the letter A has a decimal number 65, which is 01000001.

So what is really stored on hard drives and other computer memory is a collection of 1's and 0's. For computers to communicate with humans, everything has to be translated from human language to the computer's language of 1's and 0's. The good news is that this translation happens very fast.

Booting Up (or starting) the computer

When a computer is turned off it forgets everything that was stored in RAM, and RAM is where all the important stuff lives. When the computer is started (or ***booted*** up) it has to teach itself how to operate. There is a program stored in ROM that is executed when the computer is started. This program is called the ***BIOS*** (Basic Input/Output System). The BIOS checks to see what disc drives, mouse, flash drives, memory, printers, and other things are present. Once it has learned what devices are available, it looks for an ***operating system*** program to load. The operating system is usually found on a disk drive named **C:**. The operating system, in this example ***Windows***, is loading the computer learns how to interact with the user. BTW, Apple computers use a different operating system. Some computers use a free operating system called Linux.

The Windows in the Windows Operating System

The ***Windows operating system*** display consists of a ***desktop*** which is covered with ***wallpaper*** (usually some kind of picture, but wallpaper might just be a solid color). Figure 5 shows a ***Windows 11*** desktop. The left side of the display has a collection of ***shortcuts*** to various Programs (or Apps). When the mouse cursor is placed on a shortcut and the left mouse button is double clicked, the Program will open in a ***Window***. There are 3 windows open in Figure 5. The bottom edge of the display has a ***Taskbar***.

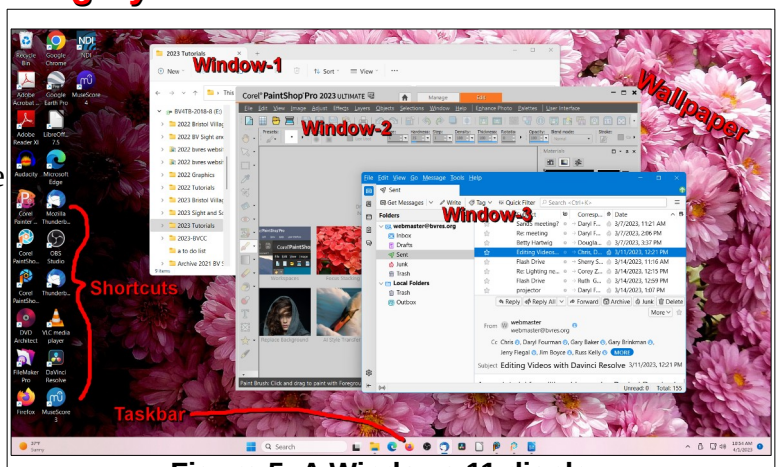

Figure 5: A Windows 11 display.

Each open window has 3 tools in the upper right corner of the window. Figure 6 shows a display captured from a computer running Windows 10 with 1 open ***Window***. Observe the three tools (***Close, Maximize, Minimize***) in the upper right corner of the open window.

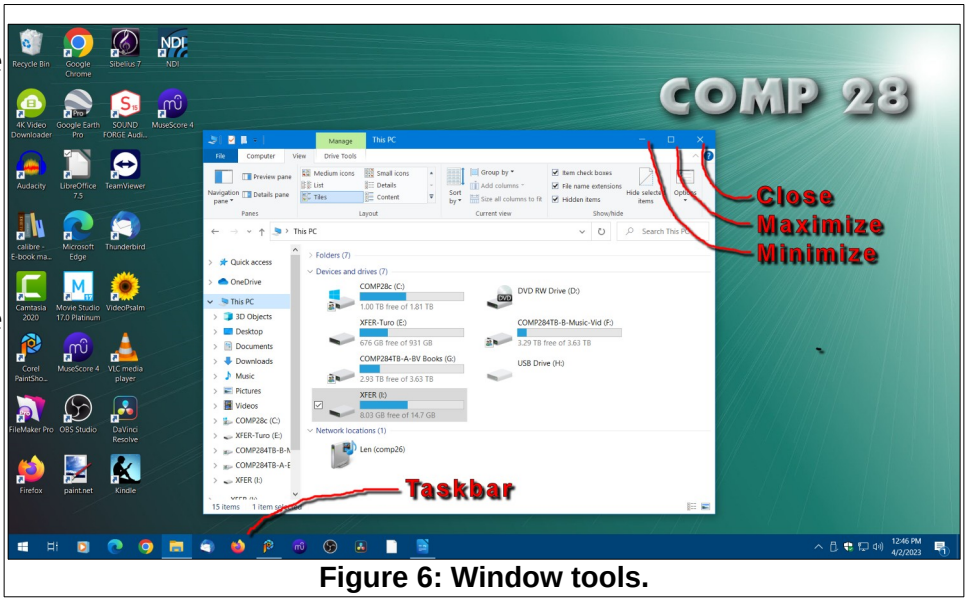

Figure 6: Window tools.

When the ***Minimize*** tool is selected the ***Window*** will shrink down to an icon on the ***Taskbar***. When the Minimized Window is selected from the Taskbar, it will be restored to the previous Windows size.

If you hold the mouse cursor over an ***edge*** or ***corner*** of a Window, the mouse cursor will change to a double arrow. When this double arrow cursor is present, you can click and drag to ***resize*** the Window.

When the ***Maximize*** tool has been selected, the Window will fill the entire display. The ***Maximize*** tool then changes to a ***Restore Down*** tool. The Restore Down tool will return the Window to its previous size.

Changing the active Window

When more than one window is open, only one open window can be active. If you have several Windows open, each time you press the **Alt+Tab** keys, The system will cycle through the available open Windows. When the desired Window is selected, release the **Alt+Tab** keys. This makes the selected window active.

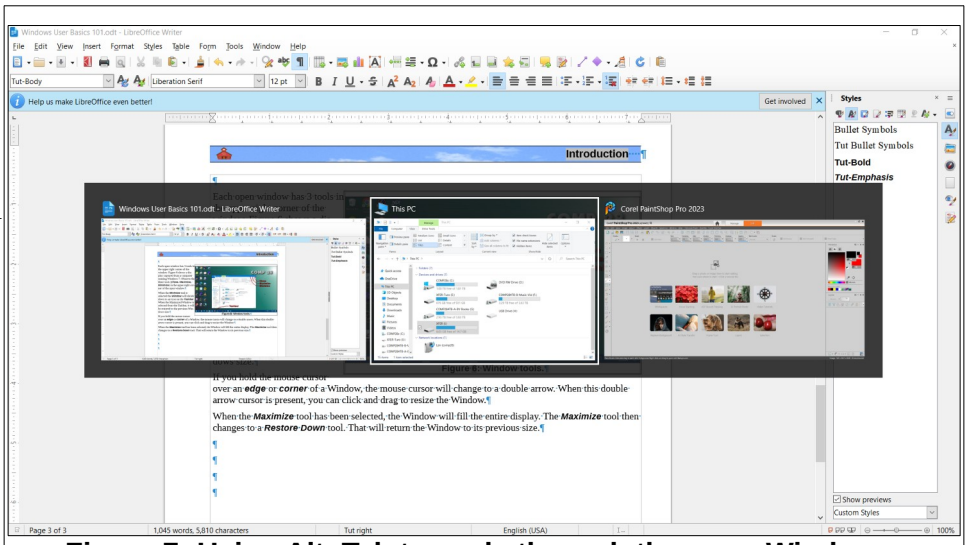

Figure 7: Using Alt+Tab to cycle through the open Windows.

Figure 7 shows that **Alt+Tab** has been pressed, and there are 3 open windows. Each time **Alt+Tab** is pressed, a different window will be selected. In Figure 7 the center window has been selected.

Selecting Text

Many beginning computer users have learned to use ***click and drag*** to select text. ***Click and Drag*** means that the mouse cursor is placed over a word and then the left mouse button is held down while the mouse cursor is moved to a new location. However, the click and drag method is not the best for selecting text. One problem is that it is easy to drag the selected text to a new location. This usually create a significant editing problem. Here are some better text selecting tricks to learn.

- **Double click**: Place the mouse text cursor somewhere in a word and then double click the left mouse button. This selects the entire word.
- **Triple click**: Place the mouse cursor anywhere in a sentence and triple click the left mouse button. This selects the entire sentence.
- **Quadruple click**: Place the mouse cursor anywhere in a sentence and click the left mouse button quickly 4 times. This selects the entire paragraph.
- **Shift+click:** Place the mouse text cursor somewhere and then hold the ***Shift key*** down and click the mouse text cursor in a new location. This selects the text between the two selection points. You can add to a previous selection by using Shift+click.

Copy (Ctrl+C) and Paste (Ctrl+V)

NOTE: **Ctrl+C** means hold the **Ctrl** key down and, while holding it down, press the C key.

Copy and ***Paste*** may be one of the biggest time savers for computer users. ***Copy*** and ***Paste*** can be used to copy text, images, document files, or even folders from one place to another.

For example, within a document you can select text, press Ctrl+C to copy the selected text to the secret clip board, move the text cursor to a new location, and the press Ctrl+V to paste the copied selection to a new location.

To copy an image (or picture) first select the image, then right click on the selected image and select Copy from the context menu.

Things can be copied from one open window to another. For example, suppose you are working on an email message or are writing a new document in your word processor program and you want to quote text or grab an image from a news article or from Wikipedia, or whatever. Use the Alt+Tab trick to switch to the source. ***Copy*** the desired text or image. Alt+Tab back to the working document and simply Paste the copied selection.

Another application for ***Copy*** and ***Paste*** is to organize files. Open 2 ***File Explorer*** windows. Select the files or folder from File Explorer window, press Ctrl+C, use Alt+Tab to move to a different File Explore window and Paste. Use the same trick to copy files or folders to a flash drive or external hard drive

The double windows trick.

The situation is this… you want to copy files from a hard drive to a USB external, or flash drive.

Press the **Windows key +E** to open a ***File Explorer*** window and adjust it to show the files or folders to be copied. When the window is active, press **Windows key+left cursor** control arrow.

Press the **Windows key +E** again to open a second ***File Explorer*** window and with that window active press **Windows key+right cursor** control arrow.

Now you will have a display that has the two windows side busy side. This makes it quicker and easier to use the Copy and Paste trick. This is a good way to back up files or to move them from one computer to another.

Figure 8 shows files duplicated from a hard drive to an external USB drive.

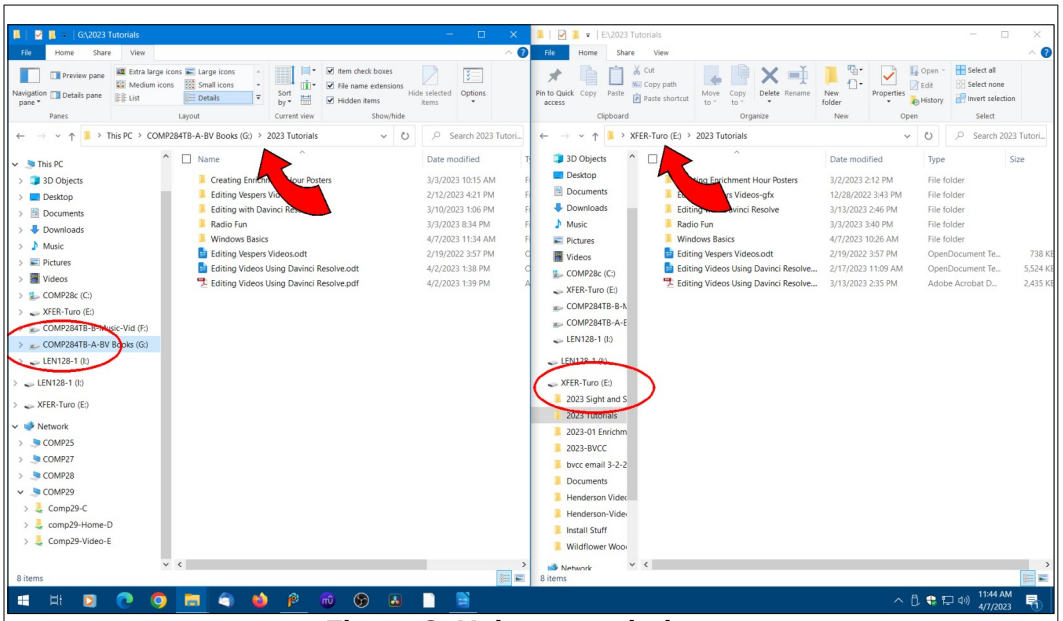

Figure 8: Using two windows.