Birchard Public Library of Sandusky County

Computer Basics I: Nuts and Bolts using Windows 10

A free computer class offered by
Birchard Public Library of Sandusky County

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Class Topics

Introduction to Computer Basics
Session 1
- **Hardware**
- **Software**

Session 2

- **Windows 7 – Navigation, shortcuts, structure and customizing**
- **Windows 8.1- Navigation, shortcuts, structure and customizing**

Session 3

- **The Internet, browsers, and searching**

Session 4

- **Online forms, documents, and Google account**
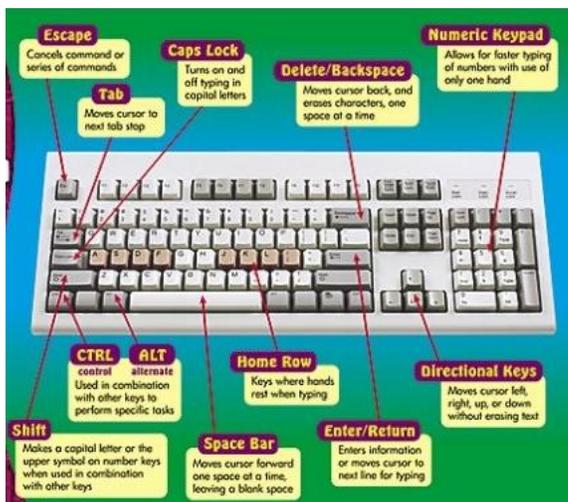
Computer Keyboards

Computer keyboards function much the same as a typical typewriter. The alphabetic, numeric, and special character keys are in the same location.

Differences between a typewriter keyboard and computer keyboard:

- ESC (escape) key
- Function keys (F1, F2, ... F12)
- CTRL (control)
- ALT (alternate)
- Windows key
- Repeating action of keys
- Numeric keypad on right
- Num and Scroll Lock
- Navigation keys (named and arrow)
- Delete key
- Insert key

Keyboards are designed for the input of **text** (alphabetic), **numbers** (numeric), and **special characters** (! @ # $ % ^ & * + = \ ). It is also used to **control** the operation of a computer.

The computer keyboard is made up of several "**sections of keys**." The alphabetic and numeric keys are the most frequently used. Follow this graphic and the instructor's direction to understand the use of these and other special use keys.

The **Escape** key, labeled **Esc**, allows you to stop a function or action. For example, if your computer suddenly freezes up, you may be able to resume by pressing Esc.

The **Function** keys, along the top of the keyboard, are labeled **F1**, **F2**, up to **F12**. These shortcut keys allow you to quickly complete a specific task within certain programs. For example, F1 opens Help in Microsoft Office.

The **Print Screen**, **Scroll Lock** and **Pause/Break** keys are at the far right end of the keyboard. The Print Screen key takes a "picture" of your screen that you can edit or save using a graphics program.

The **Enter** key carries out commands. For example, while on the Internet, you can type in a website address, called a URL, and press Enter to go to the site.

The **Control (Ctrl)**, **Alternate (Alt)**, and **Shift** keys are designed to work with other keys. For example, if you press Ctrl + S at the same time, you can **save a file**.

The **Backspace** key erases the character to the left of the cursor.

To the right of the regular keys is the **cursor control pad**. At the bottom are four **arrow** keys. Pressing any one of these keys moves the cursor in the direction of the arrow.

There are **six keys** above the arrows:

- The **Delete** key erases the character to the right the cursor.
- The **Insert** key switches between the insert mode and overtype mode. The insert mode is the normal mode for word processing.
- The **Home** key moves the cursor to the left or beginning of the current line.
- **End** moves the cursor to the right end of the current line.
- **Page Up** and **Page Down** take you to the top or bottom of the screen.

The **Number pad**, at the far **right** end of the keyboard, resembles a **calculator keypad**. The **Num Lock** button needs to be **ON** for the keypad to work correctly. Without Num Lock, the keys are used for navigation and editing. Is your Num Lock light ON?

Computer Mice

In ball mice there is a ball, which touches the mouse pad from the bottom of the mouse and rolls when the mouse moves. These are mechanical devices.

With optical mice, also known as laser mice, an LED or a small laser shines light onto the mouse pad to light it up. These are electronic devices.

The mouse is the hand-held device that lets you **point to objects** on the screen, **click** on them, and **move** them. Holding the mouse **STILL** when clicking the buttons is very important – more than that, it is **NECESSARY**.

- **Palm** rests on the mouse body
- **Index finger** rests on the **left** button; **middle finger** on the **right** button
- **Wrist** rests on table top
- **Other fingers grasp sides of mouse**
- **Mouse** rests on mouse pad or smooth surface

Types of Mouse Clicks

- **Left Click** – or simply **Click**, **Selects** the object that the pointer is on.
- **Right Click** – displays a **context sensitive menu** of options.
- **Double Click** – means that the **Left Mouse Button is clicked TWICE in rapid succession**, and normally results in the OPENING of something, a program or a window.
- **Click-Drag** – **Press and Hold the Left mouse** button on an object; this is used to Select text or an object.
- **Drag and Drop** – beginning with a **Click-Drag** on an object to allow it to be moved to another location on the screen.

Rollover

As the mouse pointer moves about screen, it will **cross a variety of icons and areas**. The mouse pointer (cursor) is normally an **arrow**. This table indicates the **other shapes** that the cursor can become, and the **associated meaning**. During the following exercises, you will be directed to parts of the screen to illustrate the change in shape.

Mouse Shape	Meaning
▷	Normal Select – an arrow
I	Text Select- a vertical line, similar to a capital I
🖑	Link Select – a pointing hand, indicates object is a hyperlink
⌛	Busy – an hour glass
↕ ↔ ⤡ ⤢	Resize – Vertical, Horizontal, Diagonal Left, Diagonal Right
✛	Move – a Plus-sign with 4 arrow heads

Navigation – Getting from Here to There

Window contents may extend **below** or to **the right of the current screen**; scrolling accesses these areas. This technique uses the mouse and window components.   The screen components are displayed in this table. The action for Scrolling using the **Up** and **Down** arrows is simply to **click the arrow** to move one line.
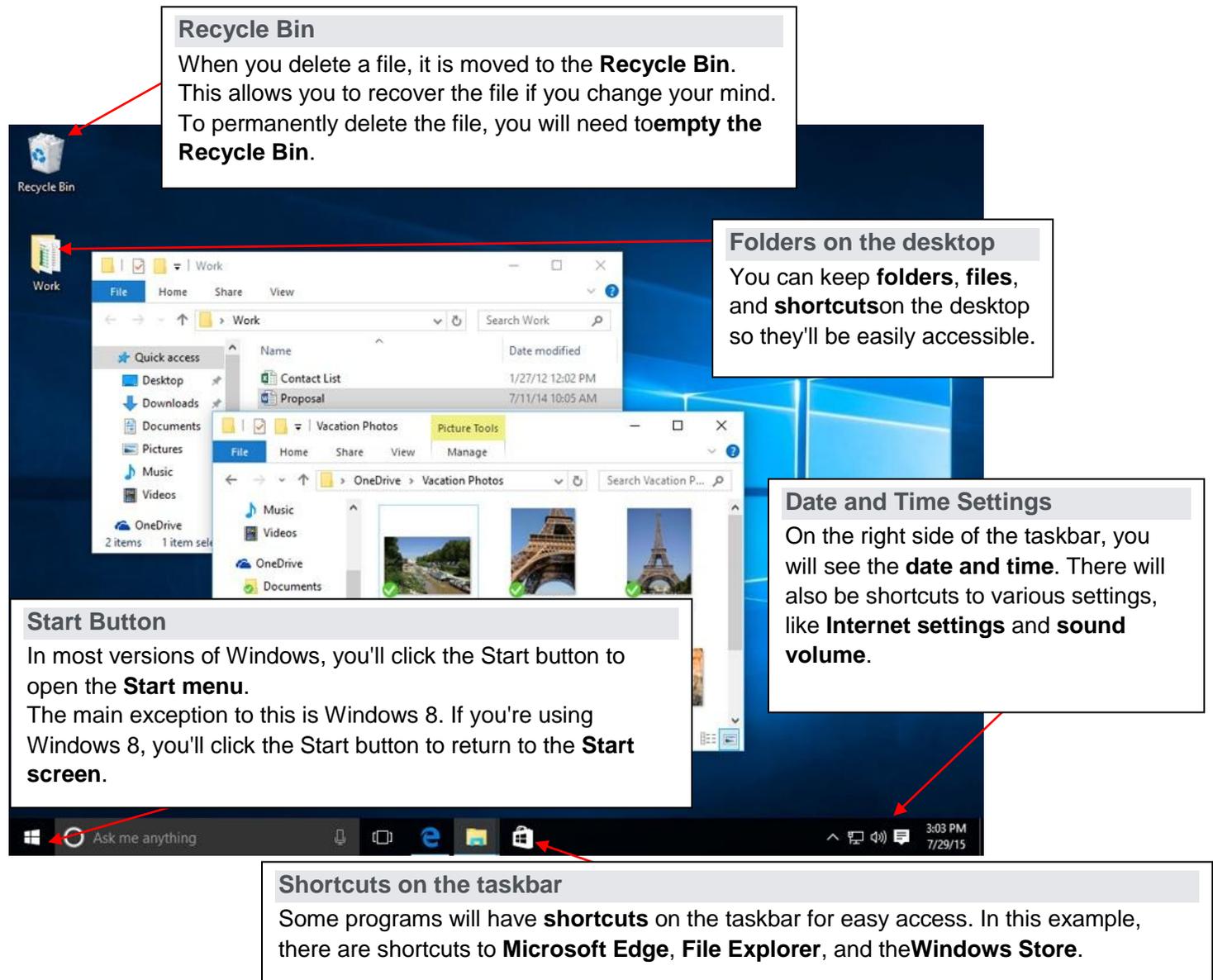
The action for moving the **Scroll Bar** is called **Click-Drag**. With the mouse point anywhere on the Scroll Bar, **press and hold** the Left Mouse button. Drag the Scroll Bar Up or Down to navigate vertically on the window

Scroll Up Arrow	Scroll Down Arrow	Scroll Bar
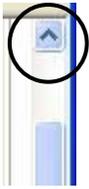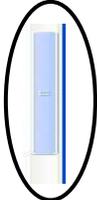
Many mice have a **scroll wheel**, a **handy** little wheel located between the left click and right click buttons, which allows users to **scroll pages up and down** without having to move the mouse all the way over to the scroll bar, click down, and drag the scroll bar, or click on the little arrows on each end of the scroll bar. Instead, the user can **just spin the wheel** one way to scroll up and the other to scroll down.

Navigating the desktop

The first thing you'll see is the desktop. You can think of the desktop as the main workspace for your computer. From here, you can view and manage your files, open applications, access the Internet, and much more.

Recycle Bin
When you delete a file, it is moved to the **Recycle Bin**. This allows you to recover the file if you change your mind. To permanently delete the file, you will need to **empty the Recycle Bin**.

Folders on the desktop
You can keep **folders**, **files**, and **shortcuts** on the desktop so they'll be easily accessible.

Date and Time Settings
On the right side of the taskbar, you will see the **date and time**. There will also be shortcuts to various settings, like **Internet settings** and **sound volume**.

Start Button
In most versions of Windows, you'll click the Start button to open the **Start menu**.
The main exception to this is Windows 8. If you're using Windows 8, you'll click the Start button to return to the **Start screen**.

Shortcuts on the taskbar
Some programs will have **shortcuts** on the taskbar for easy access. In this example, there are shortcuts to **Microsoft Edge**, **File Explorer**, and the **Windows Store**.

Opening applications

You'll use the Start menu to open programs on your computer, just like with previous versions of Windows. To do this, click the Start button in the bottom-left corner, then choose the desired application. If you don't see the one you want, select All apps to see a full list of applications. In the example below, we're opening OneNote.
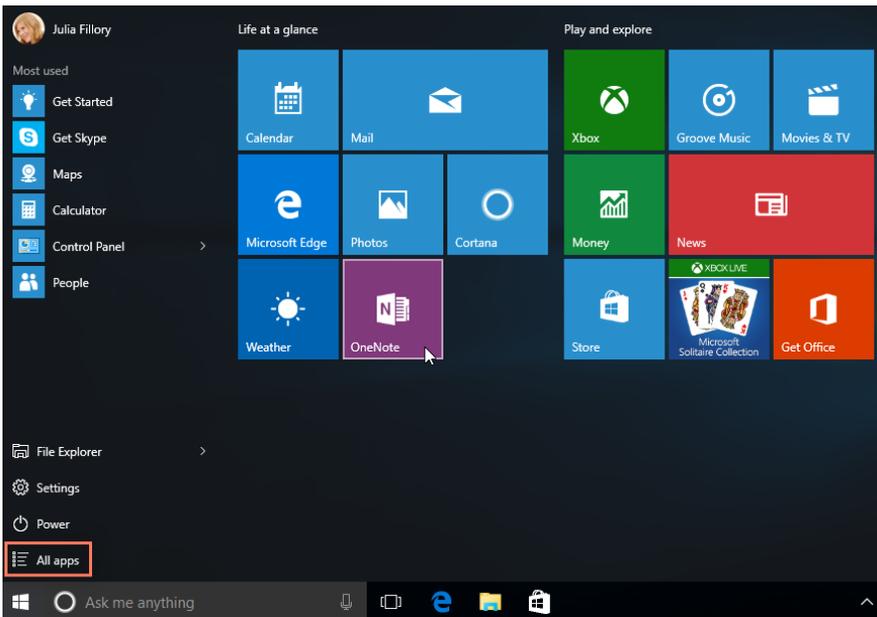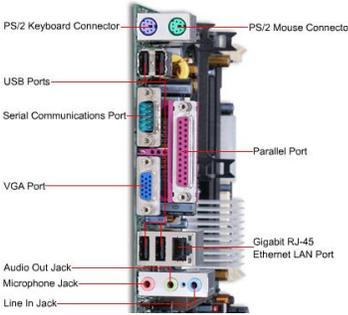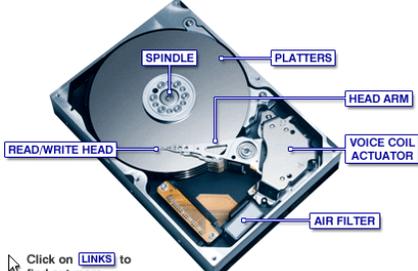
Searching for files and apps

To search for something on your computer—like a specific file or application—click the Start button, then start typing. Alternatively, you can press the Windows key on the keyboard to begin a search. In the example below, we're searching for a presentation file.
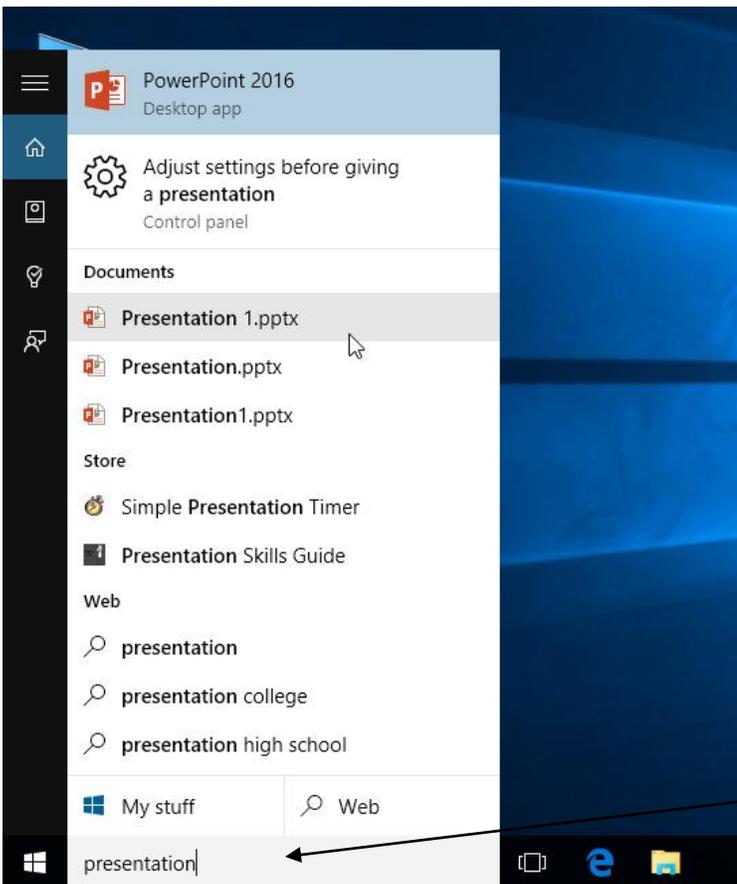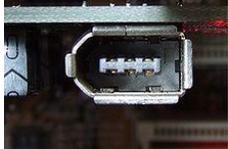

This search box in the taskbar will allow you to search your device or the web. Searching your device will find files and apps.
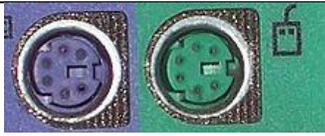
Appendix

Computer parts

Motherboard	This device is also called a "**system board**." This is a flat circuit board **inside** the computer case that connects most of the other hardware inside the case. Processors, expansion cards, disk drive cables, and many other **CHIPS** plug into the motherboard.	
Processor	The "microprocessor" is the brain of the computer. It performs calculations, makes decisions, and moves data into and out of Memory.	 Most common are Intel (Celeron, Pentium and Core), AMD (Athlon, Turium and Phenom). Multi-core, which is the most commonly found in computers, now allows two or more microprocessors, which increases computer speed.
Memory	This is a high speed, temporary storage space for the processor. It is also called "**RAM**" (Random Access Memory). Everything stored in memory is lost when the computer is powered off.	 In PC, memory fits into slots on the motherboard.
	Smaller forms of memory include SD cards and mini-SD cards, such as the memory cards used in digital cameras	
Disk drive	Disks are the **primary** storage mechanism for the computer. They come in a variety of types, but hard disks (also called **hard drives**) are usually used for permanent storage.	

Portable storage	Portable storage comes in the forms of portable drives, CDs, flash drives.	
Cards	Cards are pieces of hardware that plug into **slots** on the motherboard and give the computer additional **functionality**.	 Also called "**expansion cards**." For example, a **video** card controls the monitor and a **sound** card provides sound. Network cards allow a computer to be wired to a Home or Business network.

Different Types of Ports

Common Types of Ports	Port	Plug
USB Ports		
Firewire		
Ethernet		

Serial (port is male)		
Parallel (Port is female)		
PS2 (often in older computers used for mice, keyboards)		
VGA (in older computers, used for monitors		

Computer Vocabulary

Anti-virus software - A program that finds and removes viruses from a computer.

Backup - A copy on floppy disk or tape of files on a PC's hard disk. A backup is used in case the hard disk file(s) are erased or damaged.

Bit, bytes - A bit is the smallest piece of information that computers use. For simplicity, a PC uses bits in groups of 8 called bytes (8 bits = 1 byte).

Boot, boot up, boot disk - You boot (or boot up) your computer when you switch it on and wait while it prepares itself. Instructions for startup are given to the computer from the boot disk, which is usually the hard disk.

Browser, to browse - A browser is a program like Netscape or Internet Explorer. You use it to view or browse the Internet.

Bug - A (small) defect or fault in a program.

Cache - A kind of memory used to make a computer work faster.

CD-ROM - A disk for storing computer information. It looks like an audio CD.

CPU - Central Processing Unit. This is a PC's heart or 'brains'.

DOS - Disk Operating System. The original system used for PCs. You type in commands instead of pointing and clicking.

Driver - A small program that tells a PC how a peripheral works.

Electronic mail (email, e-mail) - Messages sent from one computer to another. You can see email on the screen or print it out.

Floppy disk - A cheap, removable disk used for storing or transferring information. It is floppy (soft) because it is plastic. *See* hard disk.

Floppy drive - The device used to run a floppy disk (usually drive 'A'.)

Folder (directory) - A sub-division of a computer's hard disk into which you put files.

Font - A particular sort of lettering (on the screen or on paper). Arial is a font. Times New Roman is another.

Format - All hard disks and floppy disks have to be electronically prepared for use by a process called formatting. Hard disks are pre-formatted by the computer manufacturer. If you buy a floppy disk that is not pre-formatted, you format it yourself, using a program that comes with your PC.

Graphics card - The equipment inside a computer that creates the image on the screen.

Hard disk - The main disk inside a computer used for storing programs and information. It is hard because it is metal. *See* floppy disk.

Icon - A small image or picture on a computer screen that is a symbol for folders, disks, peripherals, programs etc.

Internet - International network of computers that you connect to by telephone line. Two popular services of the Internet are the World Wide Web and electronic mail.

Kb, Mb, Gb - Kilobytes, megabytes, gigabytes. Used to measure computer memory and storage.

Memory - Memory is for the temporary storing of information while a computer is being used. *See* RAM, ROM and Cache.

MHz - Megahertz. This describes the speed of computer equipment. The higher the MHz the better the performance.

Modem - Equipment connected to a computer for sending/receiving digital information by telephone line. You need a modem to connect to the Internet, to send electronic mail and to fax.

Operating System - The basic software that manages a computer.

OCR - Optical Character Recognition. OCR lets a PC read a fax or scanned image and convert it to actual lettering.

Parallel port - A socket at the back of a computer for connecting external equipment or peripherals, especially printers.

PC card - A device that is the same size as a thick credit card, for plugging into a slot on notebook computers. You can buy memory, modems and hard disks as PC cards.

Peripheral - Any equipment that is connected externally to a computer. For example, printers, scanners and modems are peripherals.

Pixel - The image that you see on the screen is made of thousands of tiny dots, points or pixels.

Program - Software that operates a PC and does various things, such as writing text (word-processing program), keeping accounts (accounts program) and drawing pictures (graphics program).

QWERTY - The first 6 letters on English-language keyboards are Q-W-E-R-T-Y. The first 6 letters on French-language keyboards are A-Z-E-R-T-Y.

RAM, ROM - Two types of memory. RAM (Random Access Memory) is the main memory used while the PC is working. RAM is temporary. ROM (Read Only Memory) is for information needed by the PC and cannot be changed.

Resolution - The number of dots or pixels per inch (sometimes per centimeter) used to create the screen image.

Scanner - Equipment for converting paper documents to electronic documents that can be used by a computer.

Serial port - Socket at the back of a PC for connecting peripherals.

Taskbar, Start button - Two areas of the screen in Windows 95. The taskbar, at the bottom of the screen, shows the programs in use. The start button, in the bottom left corner, is for opening new programs.

TFT - Thin Film Transistor, a type of high quality screen for notebook computers.

Virus - A small, unauthorized program that can damage a PC.

Windows - An operating system used by the majority of PCs.

World Wide Web, WWW, the Web - WWW are initials that stand for World Wide Web. The Web is one of the services available on the Internet. It lets you access millions of pages through a system of links. Because it is 'world-wide', it was originally called the World Wide Web or WWW.

WYSIWIG - 'What You See Is What You Get.' With a WYSIWIG program, if you print a document it looks the same on paper as it looks on the screen.