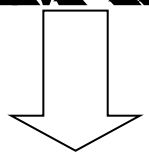
I.T SKILL

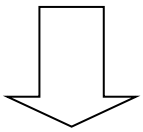
LL.B Part 2(five years program)

TEAM HEAD



Muhammad Walait Raza

PREPARED BY



M Shahnawaz Hunjra

Malik Usama Mansab

0321 9797 456

(1) What is computer RAM?

RAM is volatile memory, which means that the information temporarily stored in the module is erased when you restart or shut down your computer. Because the information is stored electrically on transistors, when there is no electric current, the data disappears. Each time you request a file or information, it is retrieved either from the computer's storage disk or the internet. The data is stored in RAM, so each time you switch from one program or page to another, the information is instantly available. When the computer is shut down, the memory is cleared until the process begins again. Volatile memory can be changed, upgraded, or expanded easily by users.

(1) What is computer Rom

ROM stands for non-volatile memory in computers. Which means the information is permanently stored on the chip. The memory does not depend on an electric current to save data, instead, data is written to individual cells using binary code. Non-volatile memory is used for parts of the computer that do not change, such as the initial boot-up portion of the software, or the firmware instructions that make your printer run. Turning off the computer does not have any effect on ROM. Non-volatile memory cannot be changed by users.

(2) What is hard disk

A hard drive, also known as a **hard disk** drive (HDD), is a fundamental part of modern computers. Functioning as an internal storage device, it allows a computer to house and execute important files and programs, like the machine's **operating system**, and its components work together to actively seek, read, and write data on system and user-generated files. The delicate nature of the standard hard disk makes it susceptible to damage and **data corruption** or loss, however, and repairing or replacing one can be costly. Damage can often be avoided by minimizing the drive's exposure to environmental factors, like dust and rough-handling.

(3) Software

Software is a general term used to describe a collection of computer programs, procedures, and documentation that perform some task on a computer system. Practical computer systems divide software systems into three major classes: system software, programming software, and application software, although the distinction is arbitrary and often blurred. Software is an ordered sequence of instructions for changing the state of the computer hardware in a particular sequence. Software is typically programmed with a user-friendly interface that allows humans to interact more efficiently with a computer system.

(4) Hardware

Hardware is best described as a device, such as a hard drive, that is physically connected to the computer or something that can be physically touched. A CD-ROM, computer display monitor, printer, and video card are all examples of computer hardware. Without any hardware, a computer would not function, and software would have nothing to run on. Hardware and software interact with one another: software tells hardware which tasks it needs to perform.

(5) CD-ROM

CD-ROM is an acronym for Compact Disc-Read Only Memory and is a type of compact disc that has read-only data, meaning that once data has been recorded onto the disc, it can only be read or played and cannot be altered or erased. A CD-ROM is a type of optical disc and can be read by a computer with an optical drive, or CD-ROM drive, and a DVD/Blu Ray Drive. It's used to store programs and files that require large amounts of data storage. A CD-ROM holds between 650-700 megabytes (MB) of data, meaning it has enough memory to store approximately 300,000 pages of text.

(6) Types of computer

In this article, I have described about the different types of computer. There are five different types of computer which are personal computer, laptop computer, palmtop computer, mainframe and super computer. Read the article and get the information about different types of computers.

(a) Personal computer (PC)

The personal computer is also known as PC and a personal computer (PC) are used for any general-purpose computer. Personal computers generally are those whose size, capabilities, and original sales price make it useful for any single person and individuals, and which is intended to be operated directly by an individual person or the end-user with no intervening computer operator. As you all know that personal computers are generally contrasted with the batch processing and according to the time-sharing models of computer which allowed the larger, more expensive and beautiful mainframe and minicomputer systems to be used by many individuals and peoples, usually at the same time. These computers have large data processing systems that require a whole-time staff to operate the computer efficiently. Personal computers can be connected to a local area network (LAN), either by a wireless connection or a cable. Nowadays, modern personal computers often have connections to the Internet, allowing access to the WWW means World Wide Web and a wide range of other resources. It is a good computer as for a single person or individual.

(b) Laptop computer

Hello friends, now next type of computer is laptop. In these today's modern world maximum peoples have laptops. A laptop also has of the same components as a desktop or a personal computer has components. Laptops have components like a keyboard, computer, including a display, a keyboard, speakers into a single unit and a pointing device such as a touchpad (also known as a track pad) and/or a pointing stick. You know that laptop computers are also sometimes called notebook computers, notebooks or notebooks. A laptop computer is a personal computer for mobile use. Nowadays, there are many laptops which have many inbuilt facilities like the wifi or wireless adaptor. There are many best companies of laptop like dell, lenovo, acer, etc. Laptop computers can be easily taken from one place to another. So now it is proved that laptops are better than personal computer.

(c) Palmtop computer

Now, the next type of computer is palmtop computer. Palmtop computer means the computer that uses pen. The use of palmtop, or handheld, computers is rapidly increasing in the modern days. Palmtop computers are generally a computer that has a small screen and compressed keyboard and is small enough to be held in the hand. Because of their small size, most palmtop computers do not include disk drives but many palmtop computers contain PCMCIA slots in which an individual can insert disk drives, modems, memory, and other

devices. Palmtops that use a pen rather than a keyboard for input are often called hand-held computers. A palmtop computer is a very small computer which you can hold in one hand.

(d) Mainframe computer

Mainframe computers are those computers used primarily by corporate and governmental organizations for critical applications and bulky applications. The definition of mainframe computer is - A data processing system employed mainly in large organizations for various applications, including bulk data processing. It is a very large and expensive computer capable of supporting hundreds of data storing functions. A mainframe (also known as big iron) is a high-performance computer used for large-scale computing purposes that require greater availability and security than the another computer

(e) Super computer

A supercomputer is a computer that performs at or near the currently highest operational rate for computers and supercomputer is a computer at the frontline of current processing capacity, particularly at the higher speed of calculation. In 1960s supercomputers were introduced.

(7) What is internet?

The Internet is a vast network that connects computers all over the world. Through the Internet, people can share information and communicate from anywhere with an Internet connection. Who invented the Internet? The Internet consists of technologies developed by different individuals and organizations.

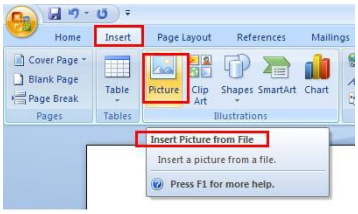
(a) Advantage and disadvantage of internet

The use of the internet has also advantages and disadvantages. For example, On the one hand, you have more knowledge than at any other time in history. On the other hand, there are violent websites or dangerous content and, in addition, people can be anonymous, which allows generating even more violence.

(b) Benefits of internet

The most obvious benefit of the internet is its speed; information can be received faster, which helps in saving time or making more money. Most business processes have been automated these includes bookkeeping, calculations, reminders, and updates.

(8) Insert a picture in a word document



1. Run MS Word Insert Multiple Pictures Software.

2. Click the "Add Image File(s)" button to add files. Then an open file dialog will appear, hold CTRL or SHIFT key to select multiple files. To add all files in a folder, click "Add All Image Files in Folder" then select a folder.

3. To start inserting the selected files, click the "Insert Images" button.

(9) Make a difference between Relative, Absolute and mixed mode addresses by Microsoft Excel.

There are three types of cell references in Excel:

1. **Relative**
2. **Absolute**
3. **Mixed**

In this article we will examine the difference between absolute, relative and mixed cell references in Excel.

Relative Cell Reference

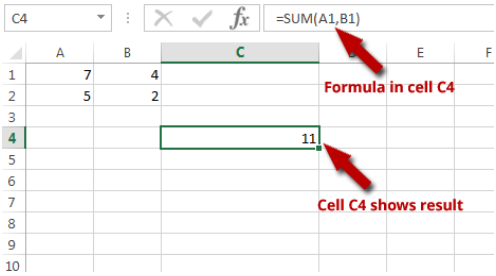
Relative cell reference indicates that the reference will change if it is copied and pasted elsewhere in the worksheet. Let’s understand it by example. Open a new worksheet and enter the values in cells as follows

- **A1** = 7
- **A2** = 5
- **B1** = 4
- **B2** = 2

Now in cell **C4** type the following formula:

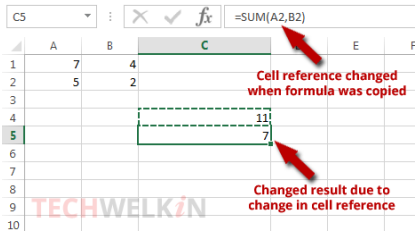
=SUM(A1,B1)

Press enter and you will see that C4 will show (7+4 = 11) as sum.



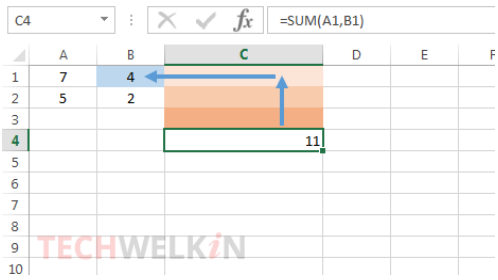
Now select cell C4 and press **Ctrl+C** to copy the formula

Select Cell C5 and press **Ctrl+V** to paste the copied formula. You will see that C5 will show sum result as 7 because moving the formula also automatically changed the cell reference from **A1,B1** to **A2,B2**.

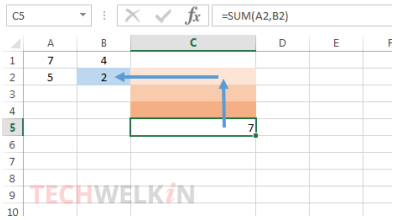


Cell references like A1 and B1 are relative references and they see the target cell with respect to the location of formula.

While working on the formula in cell C4, Excel will need to find the value in cells A1 and B1. How does it find these values? Well, it searches for B1 like a crossword puzzle… **three cells up and one cell to left** from the location of formula.



When you copy the formula and paste it in cell C5, even then Excel will follow the same steps for locating the second cell mentioned in the formula. That is to say that **Excel will *still* go three cells up and one cell to the left**. As a result the target cell will change from B1 to B2.



So, this is the Relative Reference. Excel calculate a cell's location with respect to the location of the formula containing cell. The benefit of relative referencing is that your formula will automatically change if you need to make several copies of the same formula (for example, through **auto fill**). The drawback of relative referencing is that it may throw unexpected results if you don't know what you're doing.

Absolute Cell Reference

Absolute cell reference means that the reference will not change if it is copied and pasted somewhere else. For example, if you copy a formula containing absolute cell references and paste it elsewhere, the references will still point to exactly the same cells as they were pointing in formula's original location.

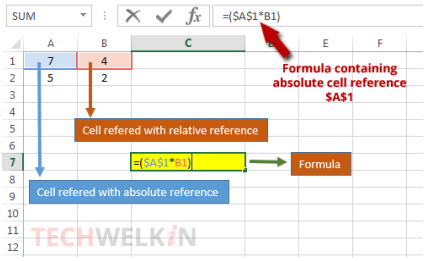
To make a cell reference absolute, just add **$** sign before the column number or row number or both of them:

1. **A2** = both column and row references are relative
2. **$A2** = column reference is absolute, row reference is relative
3. **A$2** = column reference is relative, row reference is absolute
4. **A2** = both column and row references are absolute

Let's understand it with the help of an example. Let's use the same worksheet that we created for the previous example. Type the following formula in cell C7

=(A1*B1)

This formula multiplies the value of cell A1 with the value of cell B1. Note that the first cell reference is fully absolute (A1) and the second cell reference (B1) is fully relative.



The result of this formula will be 28.

Now let's copy this formula and paste it in cell C11. You will see that the absolutely referenced cell A1 will remain as it is while the relative reference B1 will change to B5.

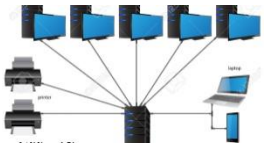
Question for you: Can you now suggest why B1 changed to B5 and not B4 or B6? We have already explained the answer.

Mixed Cell Reference

Mixed cell reference occurs when we use both relative and absolute references to refer to a cell. For example, A$1 is a mixed reference because the column name (A) is relatively referred to and row number is absolutely referred to ($1). Similarly $C5 is also an example of mixed reference.

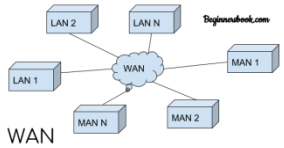
(10) Difference between WAN and LAN

Local Area Network (LAN):



LAN is a group of network devices which allow the communication between connected devices. The private ownership has the control over the local area network rather than public. LAN has short propagation delay than MAN as well as WAN. It covers the smallest area such as: College, School Hospital and so on.

Wide Area Network (WAN):



WAN

WAN covers the large area than LAN as well as MAN such as: Country/Continent etc. WAN is expensive and should or might not be owned by one organization. PSTN or Satellite medium are used for wide area network.

Let's see the difference between LAN and WAN:

S.NO	LAN	WAN
1.	LAN stands for Local Area Network.	Whereas WAN stands for Wide Area Network.
2.	LAN's ownership is private.	But WAN's ownership can be private or public.
3.	The speed of LAN is high (more than WAN).	While the speed of WAN is slower than LAN.

S.NO	LAN	WAN
4.	The propagation delay is short in LAN.	Whereas the propagation delay in WAN is long(longer than LAN).
5.	There is less congestion in LAN(local area network).	While there is more congestion in WAN(Wide Area Network).
6.	There is more fault tolerance in LAN.	While there is less fault tolerance in WAN.
7.	LAN's design and maintenance is easy.	While it's design and maintenance is difficult than LAN.
8.	LAN covers small area i.e. within the building.	While WAN covers large geographical area.
9.	LAN operates on the principle of broadcasting.	While WAN works on the principle of point to point.
10.	Transmission medium used in LAN is co-axial or UTP cable.	Whereas WAN uses PSTN or satellite link as a transmission or communication medium.

(12) Define computer and its parts

An electronic data processing device, which requires input raw data for processing and generates the output in desired form. It stores the data in its memory which can be accessed any number of times for reference from its memory. It is made up of a lot of electronics, software and mechanical parts.

Definition

"Computer is an electronic machine which is use solve over problems."

A computer is divided into three basic units namely:

1. **Input Unit**
2. **Central Processing Unit**

3. **Output Unit**

These units are defined as below:

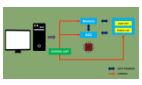
1) Input Unit

As the name suggests, this unit contains devices with the help of which the data is entered into the computer. This unit is a basic requirement for computer system. The input devices are of many types such as keyboard, mouse, joy stick, microphone, camera etc. Input devices give different set of input values converted into a form understandable to the computer.

2) Central Processing Unit (CPU)

Central Processing Unit (CPU) is known as the brain of the computer. It performs all types of data processing operations as required by a programmer. It stores all the data, intermediate results, and instructions as given by the programmer in the form of codes (program). Central Processing unit controls the operation of each part of the computer.

It has following three components:

1. **Arithmetic Logic Unit (ALU)** 
2. **Memory Unit** 
3. **Control Unit** 

3) Output Unit

The devices with the help of which we get the information from the computer are known as the output devices. Output Unit is an interface between the computer and the user. Output devices notify the information displayed into a form which is understandable by the computer user.

Functions of a Computer

1. Data is entered into computer using Input Devices.
2. Data or Instructions are stored in the computer in its memory and processed or uses them as and when required.
3. Data is processed and converted into useful information.
4. Output is generated as per format.
5. Control Mechanism is established for controlling all the functions.

We can divide computer in Hardware and Software:

1. **Hardware:** Keyboard, mouse, joy stick, microphone, camera, printer, monitor, Hard disk, CD, DVD, CPU, motherboard, RAM etc are known as Hardware.
2. **Software:** System Software & Application Software.

Advantage of Computers

A Computer has a very High Speed of processing i.e can perform large amount of data very quickly. Computers are very accurate. Computers are very fast devices. Once the correct input is given to the computers, the output is 100% accurate. It has a large memory capacity. It can store a large amount of information for a large time. It is a reliable device.

Uses of Computers

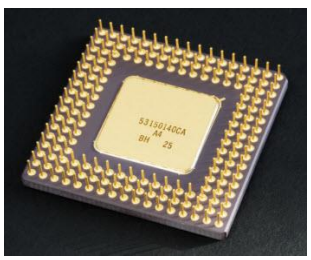
Nowadays it is used in every walk of life. It has an important role industrial automation. Computers are playing very important role in Medical science, Engineering, General Education, Government and Private organizations, Film and Entertainment.

CPU Components

A typical CPU has a number of **components**. The first is the arithmetic logic unit (ALU), which performs simple arithmetic and logical operations. Second is the control unit (CU), which manages the various components of the computer. It reads and interprets instructions from memory and transforms them into a series of signals to activate other parts of the computer. The control unit calls upon the arithmetic logic unit to perform the necessary calculations.

Top view of an Intel CPU - because it is a single integrated unit, the components are not visible from the outside.

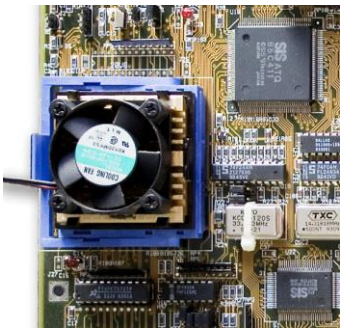
Third is the cache, which serves as high-speed memory where instructions can be copied to and retrieved. Early CPUs consisted of many separate components, but since the 1970s, they have been constructed as a single integrated unit called a **microprocessor**. As such, a CPU is a specific type of microprocessor. The individual components of a CPU have become so integrated that you can't even recognize them from the outside. This CPU is about two inches by two inches in size.



Bottom view of an Intel CPU - the gold plated pins provide the

connections to the motherboard.

CPUs are located on the **motherboard**. Motherboards have a socket for this, which is specific for a certain type of processor. A CPU gets very hot and therefore needs its own cooling system in the form of a heat sink and/or fan.



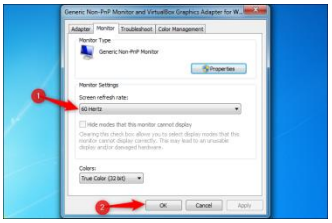
CPU located on a motherboard with a heat sink and fan directly on top

The ALU is where the calculations occur, but how do these calculations actually get carried out? To a computer, the world consists of zeros and ones. Inside a processor, we can store zeros and ones using **transistors**. These are microscopic switches that control the flow of electricity depending on whether the switch is on or off. So the transistor contains binary information: a one if a current passes through and a zero if a current does not pass through.

Transistors are located on a very thin slice of silicon. A single silicon chip can contain thousands of transistors. A single CPU contains a large number of chips. Combined, these only cover about a square inch or so. In a modern CPU, however, that square inch can hold several hundred million transistors - the very latest high-end CPUs have over one billion! Calculations are performed by signals turning on or off different combinations of transistors. And more transistors means more calculations. You may be interested to know that the material, silicon, used in chips is what gave the Silicon Valley region of California its name.

(13) Explain Refresh rate, Resolution and Dot pitch with reference of computer Monitor and video card?

(a) Refresh rate

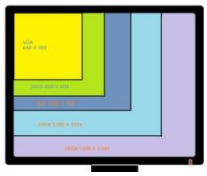


Refresh rate is the number of times your phone screen (or any electronic monitor or display) updates with new images each second. For example, a 60 Hz refresh rate means the display or monitor updates 60 times per second, while a 90 Hz refresh rate means the display or monitor updates 90 times per second.

(b) Dot Pitch

Dot pitch (sometimes called **line pitch**, **stripe pitch**, or **phosphor pitch**) is a specification for a computer display, computer printer, image scanner, or other pixel-based devices that describe the distance, for example, between dots (sub-pixels) on a display screen. In the case of an RGB color display, the derived unit of **pixel pitch** is a measure of the size of a triad plus the distance between triads.

(c) Resolution

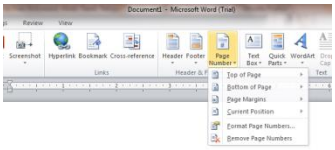


The graphics display resolution is the width and height dimension of an electronic visual display device, such as a computer monitor, in pixels. Certain combinations of width and height are standardized (e.g. by VESA) and typically given a name and an initialism that is descriptive of its dimensions.

(14) What is page number, subscript and bibliography in Microsoft office and also write method use in Microsoft word.

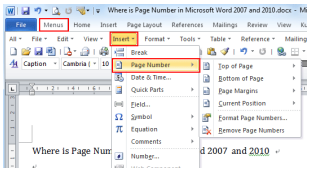
(1) Page number

In MS office



(a) Select **Insert** > **Page Number**, and then choose the location and style you want.
(b) If you don't want a page number to appear on the first page, select **Different First Page**.
(c) If you want numbering to start with 1 on the second page, go to **Page Number** > **Format Page Numbers**, and set **Start at** to **0**.
(d) When you're done, select **Close Header and Footer** or press Esc.

In MS word

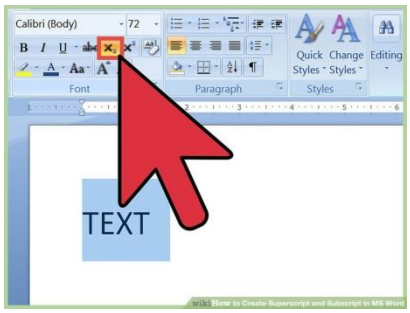


It's easy to add page numbers to a document in **Microsoft Word.** Simply click the ***"Insert"*** option on the ribbon menu, then click ***"Page Number."*** Choose from one of the options to position the numbers where you want them, such as on the top or bottom of the page. Click ***"Page Number"*** again and click ***"Format Page Numbers"*** to choose font, size and other display settings.

Numbers will automatically appear where you placed them on each page.

(2) Subscript

In word



Step 1

Highlight any word, letter or even an entire paragraph that you want formatted in superscript.

Step 2

Click the "Home" menu, then click the small "Dialog Box Launcher" in the bottom right corner of the Font group to open the Font dialog box.

Step 3

Click the "Superscript" check box to change the highlighted text. If you want to format the text in subscript, check the "Subscript" check box. You can also change the font style or font size for the highlighted text, if desired.

Step 4

Click "OK" to close the Font dialog box. Continue working on your document.

In office

Step 1

Select the cell or highlight the text you want to designate as superscript.

Step 2

Click the "Home" tab, and select the "Format Cell Font" button located next to the "Font" title.

Step 3

Click "Effects," and check the box next to "Superscript."

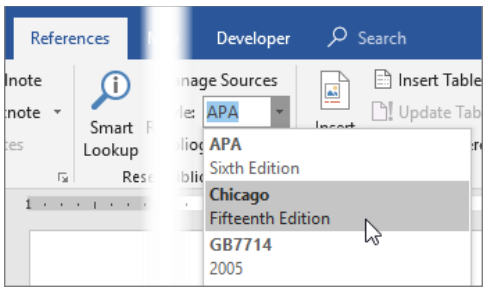
Step 4

Press "Ctrl" + "Shift" + "F" or "Ctrl" + 1" to bring up the font tab automatically instead of clicking through to reach it.

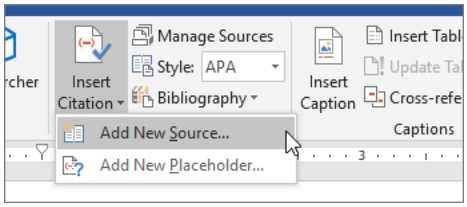
(3) Bibliography

In word

1. Put your cursor at the end of the text you want to cite.
2. Go to **References** > **Style**, and choose a citation style.



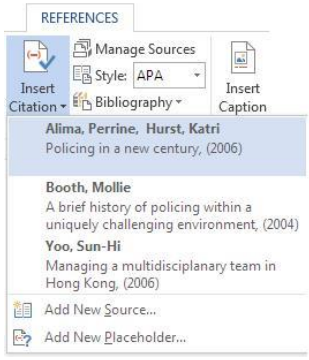
3. Select **Insert Citation**.



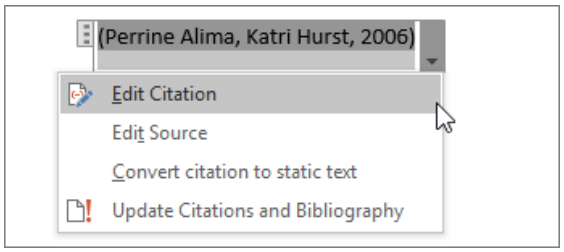
4. Choose **Add New Source** and fill out the information about your source.

   Once you've added a source to your list, you can cite it again:

1. Put your cursor at the end of the text you want to cite.
2. Go to **References** > **Insert Citation**, and choose the source you are citing.



3. To add details, like page numbers if you're citing a book, select **Citation Options**, and then **Edit Citation**.



(15) Write methods to implement the following in Microsoft powerPoint.

(1) Slide show

(2) Transition sound

(3) Printing slides

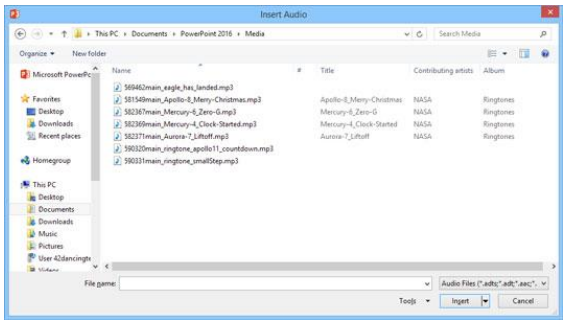
Slide show:

- In PowerPoint, go to **Slide Show** > **Set Up Slide Show** > **Browsed at a Kiosk (Full Screen**) > **OK**.
- Set the time each slide appears on the screen by selecting **Slide Show** > **Rehearse Timings** on the first slide.
- Use **Next** to move to the next slide and **Pause** to pause recording, or type a length of time in the **Slide Time** box.

Transition sound

1. Move to the slide to which you want to add the sound.
2. Open the Insert tab on the Ribbon, click the Audio button located on the right side of the tab, and then choose Audio on My PC.

   The Insert Audio dialog box appears, as shown here.

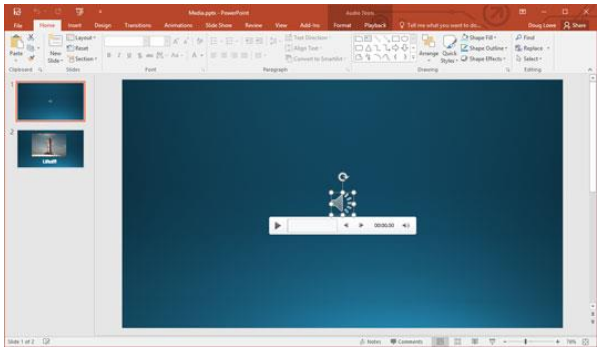


3. Select the audio file that you want to insert.

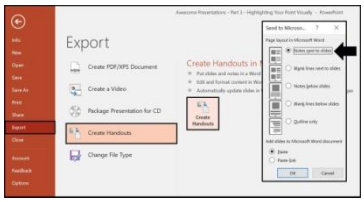
   You may have to rummage about your hard drive to find the folder that contains your sound files.

4. Click the Insert button.

   The audio file is inserted into the current slide, along with a toolbar of controls that let you play the sound.



Printing slides



1. Select **File** > **Print**.
2. For **Printer**, select the printer you want to print to.
3. For **Settings**, select the options you want:

- **Slides**: From the drop-down, choose to print all slides, selected slides, or the current slide. Or, in the **Slides** box, type which slide numbers to print, separated by a comma.

- **Print Layout**: Choose to print just the slides, just the speaker notes, an outline, or handouts.

  The Outline prints only the text in the slides, without images. The Notes of a presentation show the slide and the related speaker notes below it. If you choose to print Handouts, you can print several slides on one page using a variety of layouts, some with space for note-taking.

- **Collated**: Choose whether you want the sheets collated or uncollated.
- **Color**: Choose whether you want color, grayscale, or pure black and white.
- **Edit Header & Footer**: Select to edit the header and footer before printing.

4. For **Copies**, select how many copies you want to print.
5. Select **Print**.

(16) Different between Operating system and Application software's with example.

Definition

An operating System is a system software that manages computer hardware and software resources and provides common services for computer programs. Application software is a software designed to perform a group of coordinated functions, tasks or activities for the benefit of the user.

Usage

The operating system works as the interface between the user and hardware. It also performs process management, memory management, task scheduling, hardware device controlling and many more. In contrast, an application software performs a single specific task.

Languages

C, C++, Assembly are common languages to develop operating Systems. Java, Visual Basic, C, C++ are some languages to develop application software.

Execution

Operating system boots up when the user power on the computer and runs till he switches off the machine. On the other hand, Application software runs only when the user requests to run the application.

Requirement

The operating system is necessary for the proper functioning of the computer. It is not possible to install application software to the computer without an operating system.

Examples

Windows, Unix, Linux, DOS are few examples for operating systems. Word, Spreadsheet, Presentation, Multimedia tools, Database Management Systems, Graphics software are some examples of application software.

Conclusion

The difference between operating system and application software is that an operating system is a system software that works as the interface between the user and the hardware while the application software is a program that performs a specific task. It is not possible to install application software to the computer without an operating system.

(17) What is LCD? Difference between active matrix LCD and passive matrix LCD.

Stands for "Liquid Crystal Display." LCD is a flat panel display technology commonly used in TVs and computer monitors. It is also used in screens for mobile devices, such as laptops, tablets, and smartphones.

LCD displays don't just look different than bulky CRT monitors, the way they operate is significantly different as well. Instead of firing electrons at a glass screen, an LCD has backlight that provides light to individual pixels arranged in a rectangular grid. Each pixel has a red, green, and blue RGB sub-pixel that can be turned on or off. When all of a pixel's sub-pixels are turned off, it appears black. When all the sub-pixels are turned on 100%, it appears white. By adjusting the individual levels of red, green, and blue light, millions of color combinations are possible.

Passive-Matrix LCDs Explained

Passive-matrix LCDs are characterized by a grid-like arrangement of conductors, which are usually made of a conductive material like Indium Tin Oxide (ITO). Of course, ITO looks like transparent glass. Unlike conventional glass, though, it's highly conductive, allowing electricity to travel through it. These two properties make ITO an incredibly useful material for use in passive-matrix LCDs.

In a typical passive-matrix LCD, pixels are controlled at the junction where the ITO conductors meet. Voltage can be increased or decreased at the intersecting junctions, allowing for the creation of images.

Passive-matrix is one of the oldest types of LCD technologies, with origins dating back to the early 1980s when super-twisted nematic STN was pioneered by the Brown Boveri Research Center.

Active-Matrix LCDs Explained

Active-matrix LCDs, on the other hand, feature a back panel made of silicon. Why does this matter? Well, instead of ITO, passive-matrix LCDs use silicon, which allows for the creation of a transistor for every pixel. As a result, they are able to produce better images with a higher contrast, lower response time and improved viewing angle. Active-matrix LCDs typically cost more than their passive-matrix LCDs, but many consumers and business owners will agree that active-matrix LCDs are well worth the investment.

It's important to note that there are several types of active-matrix technologies, some of which include the following:

- **Twisted nematic (TN)**: contains liquid crystals that automatically twist in various direction to allow or restrict the passage of light.
- **In-plane switching (IPS)**: uses an electrical switch to align liquid crystal with the glass layer.
- **Super in-plane switching (SIPS)**: similar to IPS except it's able to deliver brighter colors and shorter response times.

(18) Difference between Trackballs, TrackPads and TrackPoint.

Trackball

A trackball is a stationary pointing device with a ball on its top or side. To move the pointer using a trackball, you rotate the ball with your thumb, fingers, or the palm of your hand. In addition to the ball, a trackball usually has one or more buttons that work just like mouse buttons.

Trackpad

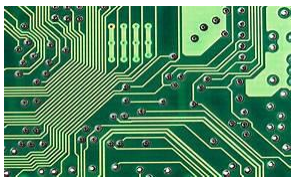
Trackpad also known as ***glide point, pressure sensitive tablet, glide pad or Trackpad is an input device placed usually on laptops to move cursor.*** Trackpads are placed with keyboards on laptop computers. When user don't have external mouse or he don't want to use one, Trackpad is the best choice. Users can move cursor by using their fingers. Users move their fingers or drag through the flat surface of the touchpad to use trackpad or to input data/information. Wherever you move your fingers, the cursor moves to that direction.

Track Point

The TrackPoint with its replaceable rubber cap is manipulated with the tip of the index finger. The pointing stick is essentially designed as a miniaturized joystick. Applied pressure in any direction pushes the cursor in the same direction. The more force applied to the device, the faster the cursor's velocity. Left and right mouse buttons are located just below the spacebar on models equipped with a TrackPoint.

(19) Discuss Different Types Of System Buses

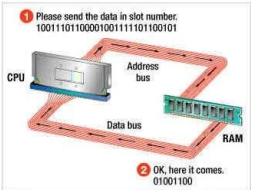
Data Bus:



Discuss Different Types of System Buses ……. Data bus is the most common type of bus. It is used to transfer data between different components of computer. The number of lines in data bus affects the speed of data transfer between different components. The data bus consists of 8, 16, 32, or 64 lines. A 64-line data bus can transfer 64 bits of data at one time.

The data bus lines are bi-directional. It means that:
CPU can read data from memory using these lines
CPU can write data to memory locations using these lines

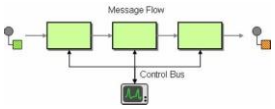
Address Bus:



Many components are connected to one another through buses. Each component is assigned a unique ID. This ID is called the address of that component. It a component wants

to communicate with another component, it uses address bus to specify the address of that component. The address bus is a unidirectional bus. It can carry information only in one direction. It carries address of memory location from microprocessor to the main memory.

Control Bus:



Control bus is used to transmit different commands or control signals from one component to another component. Suppose CPU wants to read data from main memory. It will use control is also used to transmit control signals like ASKS (Acknowledgement signals). A control signal contains the following:

1 Timing information: It specifies the time for which a device can use data and address bus.
2 Command Signal: It specifies the type of operation to be performed.
Suppose that CPU gives a command to the main memory to write data. The memory sends acknowledgement signal to CPU after writing the data successfully. CPU receives the signal and then moves to perform some other action.