

Thanks to this lecture, I learned a lot of new things that I had never heard of before. I've learned many concepts about Information Technology system.

Beginning with chapter one I learned what is software well actually software is a program consists of step-by-step instructions that tell your computer how to perform tasks. Software is another name for a program or program. Software is designed to transform data (raw facts) into information. (Fake fact). For example, a payroll program instructs the computer to: Multiply the number of hours worked per week (data) by your wage. Use rates (data) to determine your weekly salary (information).

And I also learned many things about hardware, so the hardware is the equipment that processes the data to create information. It includes smartphones, tablets, keyboards, mice, displays, system units, and other devices. Hardware is controlled by software.

Data: Raw facts including text, numbers, images and sounds. It's called data. The processed data is informational. Using the previous example Payroll program, data (hours worked and pay rate) processing (multiply) information (pay per week). • Internet: Almost all information systems provide the ability to connect with others. and computers using the Internet in general. This relationship greatly expands the possibilities Functions and usefulness of information systems.

Also, I read about operating system regarding this chapter and operating systems are programs that coordinate computer resources, provide an interface between users and the computer, and run applications. Smartphones, tablets, and many other mobile devices use embedded operating systems, also known as real-time operating systems (RTOS). Desktop computers use standalone operating systems like Windows 10 or Mac OS. (See Figures 1-5 and 1-6.) Networks use network operating systems (NOS).

As we know there are many types of computers so let's briefly talk explain each one of them Supercomputers are the maximum effective kind of laptop. These machines are special, high-ability computer systems utilized by very massive organizations. Supercomputers are normally used to procedure big quantities of information. For example, they're used to research and are expecting global climate patterns. IBM's Blue Gene supercomputer is one of the quickest computer systems withinside the world. (See Figure 1-8.) • Mainframe computer systems occupy mainly wired, air-conditioned rooms. Although now no longer almost as effective as supercomputers, mainframe computer systems are successful of splendid processing speeds and information storage. For example, coverage groups use

mainframes to procedure statistics approximately tens of thousands and thousands of policyholders.

There are many types of data such as Document files, created by word processors to save documents such as memos, theses and letters. • spreadsheet files, created by electronic spreadsheets for analysing things like budgets and sales forecast. • Database file, usually created by database management programs for storage structured and highly organized data. Example: employee database file can contain all worker names, social security numbers, job titles and other relevant information. • Presentation files, created by presentation graphics programs to save presentations material. For example, a file may contain court documents, speech notes, and electronic slides.

Moving on to chapter 2 I have learned many things about the internet access for example providers The most common way to access the Internet is Internet Service Provider (ISP). Your ISP is already connected to the Internet and provides a route or connection for: A person can access the Internet. Most popular commercial ISPs Use a phone line, cable, and/or wireless connection. little the most famous supplier in the United States is AT&T, Comcast, Sprint, T-Mobile and Verizon. As we will discuss in Chapter 8, users connect to their ISP using: One of many connectivity technologies, including DSL, cable and wireless modems.

And browsers are program that provides access to web resources. this the software connects you to a remote computer. Open the file and transfer it. Displays text, images, and multimedia. and provide Simple interface to the Internet and networks in one tool documentation. 4 popular browsers: Apple Safari, Google. Chrome, Microsoft Edge, Mozilla Firefox.

cloud computing uses the Internet and the web to shift many of these computer activities from the user's computer to other computers on the Internet.

(ToT) Internet of Things (IoT) is the continuing development of the Internet that allows everyday objects embedded with electronic devices to send and receive data over the Internet. These everyday objects include smartphones, wearable devices, and even coffeemakers. For example, the Fitbit is a bracelet that monitors health data and sends that data to your smartphone or personal web page.

For chapter 3 I've learned stuff about application software which is end user software and is used to accomplish a variety of tasks.

Moving to the most common and important part about the IT industry which is data management system A database is a collection of related data. It is the electronic equivalent of a file cabinet. A database management system (DBMS) or database manager is a program that sets up, or structures, a database. It also provides tools to enter, edit, and retrieve data from the database. All kinds of individuals use databases, from hospital administrators recording patient information to police officers checking criminal histories. Universities use databases to help students, faculty, and courses. All types of organizations maintain employee databases. Four popular database management systems designed for personal computers. Microsoft Access, Apple FileMaker, Google Obviable, and OpenOffice Base. Let's say you get a job as a hiring manager at a lifestyle fitness club. To learn how to use Microsoft Access.

cloud computing the cloud package or online office package is stored on a server on the internet and can be used wherever internet access is available. Documents created with the online application can also be saved online, making it easy to share and collaborate on documents. with other people. One of the disadvantages of cloud applications is that A server that makes applications available at any time. For this reason, when using online applications, you can save documents to your computer and use desktop office applications. Popular online office suites include Google Docs, Zoho, and Microsoft Office 365. Office for iPad.

For chapter 4 we had some basic ideas about the system software to elaborate, managing resources: Operating structures coordinate all the pc`s resources which include memory, processing, storage, and gadgets consisting of printers and monitors. They additionally reveal gadget performance, agenda tasks, offer security, and start up the pc. • Providing consumer interface: Operating structures permit customers to engage with application applications and pc hardware via a consumer interface. Originally, working structures used a character-primarily based totally interface wherein customers communicated with the working gadget via written instructions consisting of "Copy A: report.txt C:". Today, maximum working structures use a graphical consumer interface (GUI). As we mentioned in Chapter 3, a graphical consumer interface makes use of graphical factors consisting of icons and windows. A new characteristic to be had with many working structures is voice recognition. This lets in customers to engage with voice instructions.

Desktop Operating Systems Microsoft Windows is the most widely used operating system for personal computers. Because the market share is so high, more applications have

been developed. It runs on Windows more than any other operating system. Windows is versatile. They come in different versions and are designed to work with a variety of microprocessors. The last two versions are Windows 8 and Windows 10, 11.

Mac OS Apple is a leader in the development of powerful and easy-to-use personal computers. Computer operating system since the release of the Macintosh personal computer in 1984. Mac OS, designed to work only with Apple computers, was not widespread. It is used as the Windows operating system. As a result, fewer applications were written for it. However, as sales of Apple computers have risen sharply, Mac OS usage is growing rapidly and the most innovative operating system.

All versions of UNIX. Linux is an operating system that extends one of the UNIX versions. It was originally developed by Linus Torvalds, a PhD student at the University of Helsinki. In 1991. He allowed free distribution of operating system code and encouraged others to modify and develop the code. Programs released in this way are open source. Linux is a popular and powerful alternative to the Windows operating system.

For chapter 5,6 I learned many things about System Board to be more specific. A motherboard is also called a motherboard or motherboard. motherboard Controls communications for the entire computer system. All devices and components connect to the system board, including external devices such as keyboards and monitors and internal components such as hard drives and microprocessors. motherboard It acts as a data path and traffic monitor so that the various components can communicate effectively with each other. On desktop computers, the motherboard is usually located at the bottom of the case. system blocks or along one side. It is a large flat printed circuit board covered with various electronic components including connectors, slots, and busbars. connector is chip. Chips consist of small circuit boards etched into squares of sand-like material. It's called silicon. These circuit boards can be smaller than your fingertips. Microcircuits are also called silicon microcircuits, semiconductors, or integrated circuits. The chip is usually mounted in a chip holder. directly to the connector on the system board or to an attached card into the slot on the system board. Slots provide a connection point for specialized cards or circuit boards. These cards provide expansion capability for a computer system. For example, a wireless.

Microprocessor In most personal computers, the central processing unit (CPU) or processor. It is contained on a single chip called a microprocessor. the

microprocessor the "brain" of computer systems. It consists of two main components: the control unit and the arithmetic logic unit.

- Control Unit: The control unit tells the rest of the computer system how to transmit in the program guidelines. It directs the movement of electronic signals. memory to temporarily store data, instructions and processed information, and arithmetic logic blocks. It also routes these control signals between CPUs. and input and output devices.
- ALU: An ALU, commonly referred to as an ALU, does the following: There are two types of operations: arithmetic and logical. Arithmetic operation is Basic math operations: addition, subtraction, multiplication, and division. A Boolean operation consists of a comparison of whether an element is equal or not. (=), less than (<), or greater than (>) others.

A random-access memory (RAM) chip contains programs. (Instruction sequence) and data currently being processed by the processor. RAM is called temporary or volatile memory because everything in most types of RAMS is immediately lost. The computer is off. It is also lost in the event of a power outage or other communication failure. current flowing through the computer. Auxiliary storage, which we will describe You don't lose content in Chapter 7. This is persistent or non-volatile storage such as: Just like data stored on a hard drive. For this reason, as we mentioned earlier, it is a good idea to frequently save your work in progress to a secondary storage device. That is, if you are working on a document or a spreadsheet, every few minutes you should save, or store, the material. Cache (pronounced "cash") memory improves processing by acting as a temporary highspeed holding area between the memory and the CPU. The computer detects which information in RAM is most frequently used and then copies that information into the cache. When needed, the CPU can quickly access the information from the cache. Sufficient RAM is important! For example, to use the standard version Microsoft Office 2016 requires 2 GB or 2 billion bytes of RAM. some applications You may need more software, such as photo editing software. Fortunately, extra RAM You can add it to your computer system by inserting expansion modules called DIMMs. (Dual row memory module) to the system board. capacity or quantity RAM is expressed in bytes. Three units of measure are commonly used. Describes the amount of memory. Even if your computer does not have enough RAM to store the program The ability to run programs using virtual memory. Most modern operating systems support virtual memory. Virtual memory divides large programs into parts. Parts are stored on auxiliary devices, usually hard drives. Then read each part. From RAM only when needed. Therefore, computer systems can run on a very large scale. programs. ROM Read-only memory (ROM) chips have information stored in them by the manufacturer. Unlike RAM chips, ROM chips are not volatile and cannot be changed by the user. "Read only" means that the CPU can read, or retrieve, data and programs written on the ROM chip. However, the computer cannot write—encode or change—the information or instructions in ROM. Not long ago, ROM chips were typically used to contain almost all the instructions for basic computer operations. For example, you need a ROM instruction to run. The computer

accesses memory and handles keyboard input. However, the recent outbreak Memory chips have replaced ROM chips in many applications. flash memory Flash memory combines the functions of RAM and ROM. like working memory, may be updated to store new information. As with ROM, this information is not lost. When the computer system is powered off. Flash memory is used in a variety of applications. For example, it is used for: Stores computer start-up instructions. This information is called system information.

Specialized Ports: it's External Serial Advanced Technology Connection (eSATA) port provides high-speed connections to external hard drives, optical drives, and other large secondary storage devices. • The MIDI (Musical Instrument Digital Interface) port is Connect an instrument, such as an electronic keyboard, to the sound card. that A sound card converts music into a series of digital instructions. These instructions can be processed immediately for music playback or saved to a file for later use. further processing. • The Mini DisplayPort (MiniDP or mDP) port is commonly used as an audiovisual port. For connecting large monitors. This port is used by many Apple Macintosh devices. computer. • Provides VGA (Video Graphics Adapter) and DVI (Digital Video Interface) ports Connect to analog and digital monitors respectively. DVI is the best Although a commonly used standard, the VGA port is still available on almost all systems. For compatibility with older/cheaper monitors. • The FireWire port provides a high-speed connection to specialized FireWire devices. such as video cameras and storage devices.

solid state drive A solid state drive (SSD) is designed to connect inside a personal computer. The system is identical to the internal hard drive, but with solid state memory. Instead of magnetic disks for data storage. Faster and bigger SSD They are more durable than hard drives. SSDs also require less power, so Battery life of laptops and mobile devices. SSDs are more expensive and usually It has less capacity than a hard drive, but this is changing: The popularity of solid-state drives continues to grow. SSDs are widely used in tablets, smartphones and other mobile devices. Computer manufacturers have developed hybrid systems that: Includes both solid state drives and magnetic disks to obtain. SSD's speed and power benefits while maintaining Low cost and high-capacity magnetic hard drive. mostly, this system supports the operating system and applications SSD drive and videos, music, documents and folders magnetic hard disk