

Saudi Electronic University
Preparatory Year



Computer Essentials

CS-001

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بسم الله الرحمن الرحيم

اخوتي الطلاب اود التنويه ببعض النقاط:

1 - الملخص لا يغني عن الكتاب او السلايدات مجرد اجتهاد شخصي.

2 - الملخص غير مترجم.

3 - تم وضع جميع النقاط المذكورة في السلايدات على شكل أسئلة (جميع السلايدات عدا ٦ و ٧ و ٨ و ٩ تم حذف بعض الأجزاء الخاصة بالعملي) إضافة الى وجود بعض المعلومات من الكتاب تم تلوينها باللون الأصفر.

4 - عدد صفحات الملخص 41 صفحة

Computer Basics

Chapter-1

What is a computer?

A computer is a machine **changes information** from **one form** to another by doing four basic actions:

- **Input** ادخال
- **Processing** معالجة
- **Storage** تخزين
- **Output** اخراج

What are the four actions of a computer's information processing cycle?

These actions: input, processing, storage, output together they make up the **information processing cycle**.

How the computers work? What system.

Computers work with **binary system** that has fixed value.

What does Bit mean? And how many values does it have?

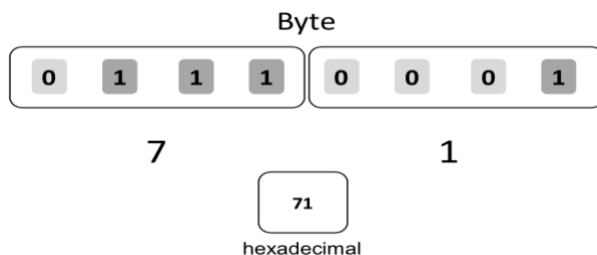
Bit is **a short for binary digit**. Each bit has two possible values, 0 or 1

What is byte?

Byte is **groups** of 0s or 1s (combinations of bits) **entered** to the computer **as pieces of data**.

Describe the hexadecimal?

One hexadecimal digit **equal** to **four binary digits**.



How many bytes does the colors can be represented?

Colors can be represented by **three-byte** (8bit +8bit +8bit) where each byte represents red, green, or blue (RGB).

How many possible combinations of 0 or 1 in each group?

There are 256 possible combinations.

How do we represent a color?

RGB are **codes simplified into a 6-digit hexadecimal value**. First two digits of hexadecimal are Red, second two digits are Green, last two digits are Blue.

What is encoding character?

Is type of encoding character as bytes.

Why do we use encoding?

Because **computers only recognize binary data**, so texts or pictures enter to computer as codes in binary form (digital).

What is the most common coding system in character set?

ASCII: uses 8 bits.

Unicode: uses 16 bits.

Computer Basics

Chapter-1

	Unit	Equivalent	
%	1 kilobyte (KB)	1,024 bytes	↑ X
	1 megabyte (MB)	1,048,576 bytes	
	1 gigabyte (GB)	1,073,741,824 bytes	
	1 terabyte (TB)	1,099,511,627,776 bytes	

What are the computer elements?

A computer system consists of two major elements:

- 1- Hardware
- 2- Software.

What is computer hardware?

Hardware are the computer's **physical parts**.

What is the function of the processor hardware device?

Processor is a hardware device turns **raw data** into **usable information**.

Where can we find most computer hardware? What they do?

Most computer hardware is inside the case. They used for **processing** and **storing data**.

Give two examples for hardware used outside the computer case?

Keyboard and mouse.

What are the main components of a computer?

- **Motherboard**
- **CPU** (Central Processing Unit)
- **RAM** (Random Access Memory)
- **HDD** (Hard Disk Drive)

What is the function of the motherboard?

The **motherboard** connects hardware and allows data to **travel** from one hardware device to another. Motherboard also known as the **system board** or the **main board**.

What does the motherboard contain?

Motherboards are containing a set of paths called **buses** uses for communications between devices.

Why does the CPU is the most important processing devices?

Because **CPU receives data input, executes instructions** and **processing information**.

Where can we find the CPU?

The CPU fits into the motherboard's CPU socket.

Which unit do we use to measure CPU's speed?

CPU's speed measured in **gigahertz** (GHz) Example: (4.10GHz)

Computer Basics

Chapter-1

Where can we find RAM? And why?

RAM located in specific slots in the motherboard close to the CPU, because it **allows the CPU to quickly find the data it works with**.

What is Cache memory? And where is it located?

Cache memory is located between CPU and RAM, the CPU uses this memory to buffer memory during processing.

What are the differences between RAM and Cache memory?

RAM comes with **high capacity storage** than Cache memory

Does RAM stores data when computer is on?

Yes, it does, but the data **lost** when the computer is **off**.

Which unit do we use to measure RAM?

RAM measured by **gigabyte**. Example (8 GB)

What is HDD? What does HDD do?

HDD is a **hard disk drive** that **holds** the most data in amount of several hundred gigabytes and it stores data **permanently** even when computer is off.

How the computer components powered?

Computer components are powered by **electricity**.

What is circuit? And what does it contain?

Circuit is a network of electronics that contains switches or transistors.

What is the function of transformer?

Transformer transfer electricity from one circuit to another.

What is the power supply? And why do we use it?

Power supply is a hardware used to **convert AC to DC**.

What are the peripheral devices?

Peripheral devices are **separate pieces** of hardware but can be connecter to the case by wire or wireless to **move data back and forth**.

What are the expansions cards? Where do they fit?

Expansions cards are Sound cards, video cards ... and they **provide extra functionality**, they fit into slots on the motherboard.

What are the supercomputers?

Supercomputers are the largest and most powerful computer.

What is the Mainframe?

Mainframe used in **centralizes computing systems** as the location storage of data.

What is the server?

The server **holds** all the data and programs in a network.

Computer Basics

Chapter-1

Name 4 computers for individuals?

Desktop computers, tablet computers, smart phones and wearable computers.

What is computer software?

Software includes all the programs that tell a computer what to do and how to do it.

How many types of software does the computer have? Name them.

Computer have two software:

- **System software.**
- **Application software.**

What does the programmer do?

Programmer writes instructions, called source code using programming language such as Java or C then these instructions become a software.

How many types of programming? What are they?

There are two types of programming:

- **Procedural programming:** which uses **step-by-step** instructions.
- **Object-oriented programming:** which **provides rules** for creating and managing objects include data and how to process it.

Give two **examples** for each programming languages?

Procedural programming language includes: **C, Fortran, Basic.**

Object-oriented programming language includes: **Java, Python.**

What are the differences between Compilers and Interpreters?

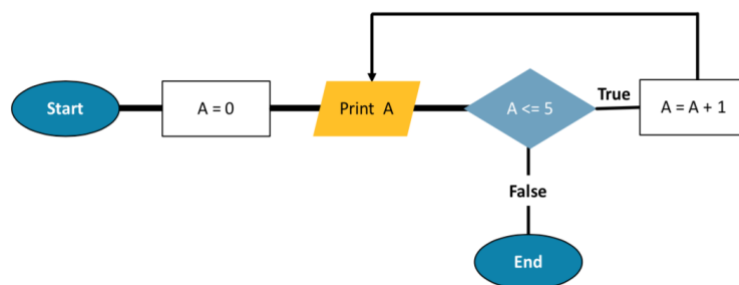
Interpreters program: translate source code **directly into actions.**

Compilers program: translate source code into **binary form.**

They both translate source code into form can be read by computer, **but compilers complete tasks faster than Interpreter.**

What is algorithm?

Algorithm is a linear sequence of instructions that results in computer performing a specific task.



Input and Output

Chapter-2

What is the difference between Input devices and Output devices?

Input devices: hardware used to **convert data** to a form can be processed by computer.

Output devices: hardware used to **display** or **play** back the **results** of computer processing.

How many types does input have? What are they?

Input have 4 types:

- **Data**
- **Software instructions**
- **User commands**
- **Response**

Name 7 input devices? Prefer to describe each one.

1. **Keyboard:** most common input device.
2. **Microphone:** used to input sounds.
3. **Mouse:** pointing device.
4. **Modems and routers:** direct the input data.
5. **Digital Cameras:** input photos.
6. **Webcam.**
7. **Scanners:** copy printed images into computer and can stand-alone or part of printer.

What is RSI?

RSI is **Repetitive Strain Injury** caused by using a keyboard a lot, but **Ergonomic** keyboards designed to **reduce** RSI.

How does the microphone capture sound?

Microphones captures sounds in **analog forms**, but as we know computers can read only digital forms, this is why we use **sound cards** which is a circuit board **processes sounds in multiple ways** to make computer recognize the sounds.

Name 3 pointing devices.

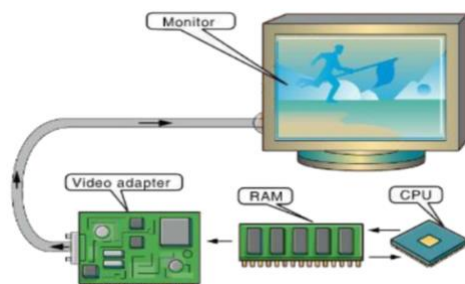
- **Mouse:** device send control signals to computer.
- **Touchpad**
- **Touch screen**

How does the digital camera work?

Digital camera takes information from the lens and record it as **pixels** or **small dots**, and it has a memory to store pictures.

How does computer read video?

The video **must** be in digital form created by the **video adapter** which is also **compress files** and it has its own memory called video memory (**VRAM**).



Input and Output

Chapter-2

How does the scanners work?

Most scanners have **software** called **optical character recognition (OCR)** to turn text into digital file.

How many types of scanners?

There are three different types of scanners:

1. **Sheetfed scanner:** pull papers one at time.
2. **Flatbed scanner:** scan one paper.
3. **Handheld scanner:** useful to copy small papers.

How many ways does the output device follow?

Output devices can be one of four ways:

- Text
- Graphics
- Video
- Audio

Give three examples for output devices?

Monitors, printers and speakers.

What are monitors? And what are the types does it have?

Monitors are the most common **soft copy** output devices and it has two types:

- **LCD** (Liquid crystal display) and they consume low power and flat screens.
- **CRT** (Cathode ray tube) they are heavy and heat up easily.

How can we output a video? What is DLP?

To outputting a video there are two devices:

- Data projectors which **shows** computer on projection screen. Digital light processing (DLP) projectors use millions of mirrors to create **sharp images** and we use DLP with large audiences like cinemas.
- Televisions especially **high definition television (HDTV)**.

What are the printers? And how many types of printers?

Printers are the **most hard** copy output devices and have two types:

1. **Nonimpact:** inkjet printers and laser printers.
2. **Impact.**

What is the different between inkjet and laser in nonimpact printers?

Inkjet: make images by spraying a fine stream of ink.

Laser: heat fuses the toner to the paper to create the image.

We can find them both (inkjet and laser) in **All-in-One** printer versions.

How does impact printer work?

Impact printers use hammers or pins to press the ink and they are noisy, but they still used in businesses to provide **multi-part** forms like invoices.

How does the computer read text files and plays it as sounds?

By using **Speech synthesis software**.

Storage Basics

Chapter-3

What are the computer storage devices?

Computer storage devices are a computer's hardware components that **retain data** after the power is turned off.

How does the computer store data and program instructions?

Computer stored data and program instructions in a **file**.

What is a file?

File is a collection of related information or program code that is given a **unique name**.

What are the storage devices types?

There are two of storage devices type:

- **Primary storage**: which is the main memory or RAM.
- **Secondary storage**: which refers to devices can store data permanently

Give four examples for secondary storage?

1. Hard drive
2. Flash drive
3. DVD
4. External hard drive

What does BIOS stand for? And what is it?

BIOS is Basic Input Output System. it is a set of programs called **firmware** that tell the computer how to **start up**.

Where does BIOS stored?

BIOS is **permanently** stored in special memory chip called **read-only memory (ROM)**

What does UEFI stand for?

UEFI is Unified Extensible Firmware Interface which is used **instead** of BIOS.

What is the difference between ROM and RAM?

ROM: is **permanently** storage which **holds the startup instructions** and configuration information for the computer.

RAM: is **temporary** storage which **holds the program instructions** and data that are being used by the CPU.

What is the difference between read-only and read and write storage devices? Give examples.

Read only: can only be read by media such as CD-R, CD-ROM

Read and write: can be read and write from/on media such as Hard Disk, CD-RW, DVD-RAM.

What is the difference between Random and Sequential storage devices? Give examples.

Random: go direct to the needed information such as **Hard Disk**.

Sequential: scan from beginning until it finds the needed data such as **Tape**.

Storage Basics

Chapter-3

How does the Magnetic and Optical storage devices work? Give examples.

Magnetic: work by a relay on magnetic field to read data such as **Hard desk**.

Optical: uses laser beams to read data has been stored on the reflective surface such as **CD**.

What is the most common magnetic storage device?

Hard drive is the **most common magnetic storage device** and can be install in the computer.

What are the internal and external storage?

Any storage device installed **inside** your computer called **internal storage**, if the position is **outside** the computer it called **external storage** device.

What are platters?

Platters are a **stack of metal disks** that store information, and each platter is divided into **tracks** and each track is divided into segments called **sectors**. A **cylinder** is the same track location on all the platters.

How does read/write head works?

Read/write head is a **small needle-like** component, and it **travels** back and forth across the surface of each platter to **retrieve** and **store data**.

Describe the Hard Drives?

The performance of your hard drive directly **affects how fast is your computer** works and it is measured by **its access time**.

What is Data transfer rate?

Data transfer rate is a formation used to **measure** the speed of reading the information or the number of bits of data the device can transfer to memory or to another device in a single second.

What is SSD?

SSD is Solid State Disk or drive and it is a **mass storage device** similar to Hard Disk Drive (HDD), **SSD do not have any moving parts** it stores data using **flash memory**, and it has **better** read performance because data do not fragment into many locations.

Name two Optical storage devices?

Optical storage media such as CD-ROM and DVD-ROM devices are easy to transport and can store large amounts of information.

Storage Basics

Chapter-3

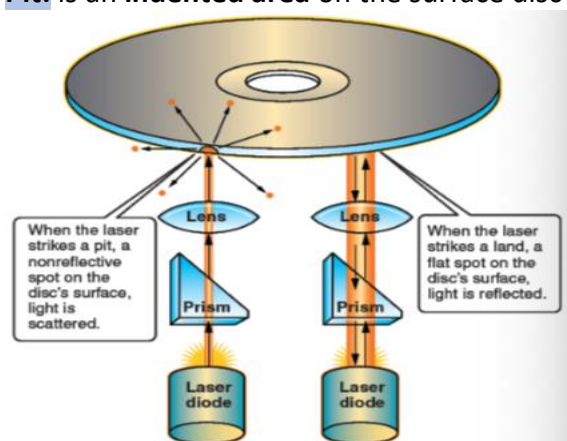
How does the optical disk work?

Optical disk made up with **three layers**, a laser sensor tool housed inside the optical device and reads information, the surface of an optical disc stores data as series of lands and pits.

What is the difference between land and pit?

Land: is a flat, **reflective area** on the surface of a disc.

Pit: is an **indented area** on the surface disc that scatters the light from a laser's sensor.



Device	Capacity
Internal hard drive	500 GB – 1TB and more
External hard drive	500 GB – 8 TB and more
Flash memory	4 GB – 265 GB and more
CD-ROM	650 MB – 700 MB and more
DVD	9.5 GB and more
Blu-ray disc	25 GB and more

What does USB stand for?

Universal Serial Bus.

What is a cloud computing means?

Cloud computing uses the **internet** and **central remote servers** to host data and applications.

What does virtualization mean?

When physical storage is pooled from multiple network storage devices into what seems to be **one single storage** devices managed from a central console it is called **virtualization**.

Where does storage virtualization usually used?

Storage virtualization is usually used in a **storage area network (SAN)**, or a network of storage devices that can be accessed by multiple computers.

System Software

Chapter-4

What does interface mean?

Operating system **controls** all the computer's functions and provides the **on-screen** tools to interact with the computer and its programs. This is called an **interface**.

What are the 5 operating system (OS) tasks?

Manages the CPU so that processing tasks are done properly.

Manages computer memory

Manages files stored on the computer's disks.

Manages input and output devices.

Loads applications programs into memory.

When conflict can occur?

Conflicts can occur when two programs try to occupy the same space in RAM, causing a program **crash** until conflict is resolved.

What are the differences between update and upgrade?

Update is to fix problems and remove bugs

Upgrade is to introduces new features and new functions.

What are the types of operating systems?

- **Real-time operating systems:** used to control large equipment or machines to regulate factory because they require little user interaction.
- **Single-used/single-task systems:** let one person to do one task at a time.
- **Single-used/multitasking systems:** let one person do several jobs at one time or one after one.
- **Multi-user systems:** allow many users to use one large computer.

What are the operating systems for computers?

- **Mac OS X:** Apple became the first computer maker equipped with **graphical user interface**(GUI).
- **Microsoft Windows OS:** is currently the market leader.
- **UNIX:** was one of the first operating system ever written, later one of their personal computers call **Linux**

Why do we use operating systems for mobile devices?

Mobile devices and tablets are computers and they need an OS to run properly.

What does operating systems do for mobile devices?

Operating systems for mobile devices do the maximize the efficiency of a smaller touch screen, limited memory and limited storage capacity.

How many OS does the smart phones contains? Why?

Smart phones contain two operating systems one **supports the user's software** and one **operates the phone's hardware**.

What are the most common mobile devices OS?

- Apple's IOS.
- Microsoft Windows phone.
- Google android.

System Software

Chapter-4

How we boot the computer?

When we turn computer **on**, we boot it.

What does computer boot perform?

When computer boots it performs a **series of tests** called the **Power-On Self-Test** or POST

What happen during POST?

During POST the **major components** of the system are **checked**. It does this part by reading information stored on the **CMOS** chip.

What does CMOS stand for? And what is it?

CMOS stands for Complementary Metal-Oxide Semiconductor. It is a **battery-powered** memory chip on the motherboard that stores information about the computer components.

What is a login screen?

It is a screen asks you for username and password when operating system starts.

How to protect data?

One way to protect data is to set up user accounts to identify who can access to computer.

Who is system administrator?

The system administrator is the person responsible for **maintaining** the computer system and **for setting up user accounts**, he has permission to customize and configure all aspects of the system for all users.

What is specific user rights?

Specific user rights are the limit or allow access given by the administrator

Give four examples for user rights?

- Can install or remove programs.
- File access (read-only or edit).
- Can add or remove hardware.
- Change operating system settings.

What computer operating systems are based on?

Computer operating systems are based on **visual displays**. The **GUI** lets you use a pointing device to interact with workspace on computer screen called **desktop**.

What are icons means?

Pictures called icons represent resources on the computer such as a program, a document, a hardware device, or Web site.

How operating systems manage file storage?

Most operating systems manage file storage using **multilevel** or hierarchical **filing system** called a **directory**.

What does root directory mean?

The directory looks like the **roots** of a tree. At the top is the main storage location called **root directory**. Within the root are **subdirectories** called **folders** which may contain other folders inside called **subfolders** and files. Most OS come with some folders already set up for example: windows comes with Documents, Pictures, Control Panel and so on.

System Software

Chapter-4

Write common file type and their extensions?

.doc/.docx	for Microsoft Word documents.
.xls/.xlsx	for Microsoft Excel documents.
.ppt/.pptx	for Microsoft PowerPoint Presentations.
.txt	for Text documents
.wav	for Waveform Audio File.
.mp3	for MP3 Audio File.
.jpg	for JPEG Image File.
.mov	for QuickTime Video File.
.zip	for Compressed File.
.html	HTML File.
.csv	Comma Separated Values Document.

What is task manager?

The ability to monitor your computer's performance in real-time.

What does task manager window contain?

- Processes Tap.
- The Users.
- The Performance.
- The Details.
- The App History.
- The Services.
- The Startup.

What does processes tap show?

Processes Tap show all apps and processes currently in use and their status, if blank the app is running normally if not responding the program has hung up. And also, you can End Task for not responding apps and avoid rebooting the entire system. And you can see each program exactly what percentage of CPU time it is using and memory usage.

What does performance tap show?

Performance tap displays summary information for:

- CPU usage.
- Memory usage.
- Disk usage.
- Ethernet.

What does happen when you sleep mode or standby the computer?

The power is shut off to non-essential components.

What does happen when you hibernate mode the computer?

Data from RAM is saved to the hard disk then power shut down.

What does utility system do?

Utility system does the maintenance and repair jobs that the OS cannot itself.

There are many types of utilities built into OS, give examples?

- File Manager.
- File compressing.
- Driver utility.
- Disk management.
- Program utility.
- Virus detection
- Backup utility.

What is the most important tool in OS? Why?

The most important tool in OS is the File Manager, because you can use the file finder utility to look for file.

What are the tasks does file manager perform?

- Create new folders or subfolders.
- Delete files and folders.
- Move or copy items between folders.
- Launch applications.

System Software

Chapter-4

What does driver utility contain?

Driver utility contains data needed by programs to operate input and output devices, operating systems that have Plug and Play (PnP) capability can automatically detect new PnP-compatible devices. Otherwise you can download files from device manufacturer's web site or use CD/DVD.

What does program utility do?

You can install or uninstall or reinstall programs.

Where does backup utility copy data?

Backup utility programs automatically copy data from the computer's hard drive to a backup storage device.

What does File compression utility do?

File compression utility are programs that reduce the size of files without harming the data because smaller files are quicker to transfer.

What does Disk management utility do?

Computer files can be corrupted or damaged and the data is unrecoverable. A disk scanner checks magnetic disks for error and tries to correct irregularities on a disk's surface.

What is a file fragmentation?

A file fragmentation occurs when a file is broken into pieces that are saved into different places on a hard drive.

what is a defragmenter?

A defragmenter utility reverses file fragmentation.

How can disk errors occur?

When a new program is loaded or removed from the system.

What is Malware?

Malware is a software designed to damage or disable your computer system or data.

What is a virus?

A virus is a type of malware that can replicate or copy itself.

What happen if an antivirus discovers a virus?

It alerts you then attempts to disable and remove the virus.

Application Software

Chapter-5

What does application software do?

Application software **performs a specific job or task**. It is important to choose applications that can do the jobs you want done.

What does PIM stand for?

PIM is **Personal Information Manager**, which is a type of software for storing phone numbers and addresses and creating schedules.

Why we use application software?

Word-processing:	Create text-based documents such as reports and letters.
Spreadsheet:	Display and analyze business, personal, or financial data.
Database:	Store and organize information.
Presentation:	Create and deliver multimedia slide shows.
Desktop-publishing:	Create publishing such as brochures and invitations.
E-Mail:	Create, send, receive, and organize electronic mail messages.

What are the types of application software?

1. **Stand-alone program:** software that specialized in one task.
2. **Integrated software:** programs combine the basic features of several applications into one package.
3. **Productivity suits:** combine several programs such as word-processing, spreadsheet, databases, and graphics.
4. **Software as a Service:** applications available for use online.
5. **Pervasive Computing:** to let users interact with their things.

What is a vertical application?

A **vertical** application is designed for a very **limited purpose**, such as medical billing.

What is a horizontal application?

A **horizontal** application is a **general-purpose** program that meets the needs of many users, and it can be divided into several categories based on the focus of the program.

- Personal productivity programs.
- Multimedia applications.
- Internet applications.
- Online or mobile apps.

What types does obtain application software have?

- **Commercial software:** is a copyrighted software you must buy before using it.
- **Shareware software:** you can use on a try-before-you buy.
- **Freeware:** copyrighted software for free.
- **Open-source software:** may or may not be free and makes source code available to public.
- **Public domain software:** program authors allow you to use programs, share them, give them away, or even alter them.
- **Creative commons license** lets software copyrighted holders open some of their work for the public use while letting them hold onto other parts of their work.

Application Software

Chapter-5

How to use software legally?

A software **license** allows a buyer to use and install a program. Individual might buy a single-user license for one copy of the program. Or a **single-seat** license to install the program on a single computer.

What does organizations usually buy?

Organizations usually buy a **volume** or **site license**, which lets them install on multiple systems or a network for multiple users.

What does software piracy mean?

Copying copyrighted software on other computers, give away, or sell are violating and federal copyright laws and stealing. This is called software piracy.

What are system requirements?

Each software program has **minimum** system requirements, and the computers must meet the minimum hardware and software needs to work properly.

Give 5 examples of system requirements?

- Your computer type. {Macintosh, PC compatible}.
- Microprocessor speed.
- Operating system. {MAC OS X, Linux, Windows}
- Available amount of memory (RAM). {256 MB RAM}
- Available hardware space. {at least 650 MB available disk space}

Name 5 common features you likely find in your application windows?

- **Menus and taps:** give you access to the program's commands.
- **Status bar:** shows information about the program and other useful messages.
- **Toolbar:** to select a command. A toolbar is a row of icons or buttons.
- **Default settings:** to customize the program for the way you want to work by selecting preferences or option.
- **Multitasking:** working with more than one computer application at the same time.

How many parts does the ribbon have?

The Ribbon has three parts:

1. **Tabs:** contain important tasks. {Home tab}
2. **Groups:** related tasks. {Font group}
3. **Commands:** is a button or box for entering information. {**B** button to bold text}

What does scroll means?

Scroll is to move from one part of a document to another on the screen.

Word Processing Software

Chapter-6

What is Word-processing Software?

Word-processing Software is a programs are used for **creating** and **printing** text documents.

Name four functions for these programs? (Word-processing Software)

1. Writing.
2. Editing.
3. Formatting.
4. Printing.

What are Word processing software examples?

• Desktop	OpenOffice Writer
	Microsoft Office Word
• Online	Google Docs
	Microsoft Word 365

What does Word wrap do in Word processing Software?

Word wrap automatically starts a new line, or “wraps” the text, when the current line is full.

What does Pagination do in Word processing Software?

When page is full, **pagination** feature automatically starts a new page.

What does AutoCorrect do in Word processing Software?

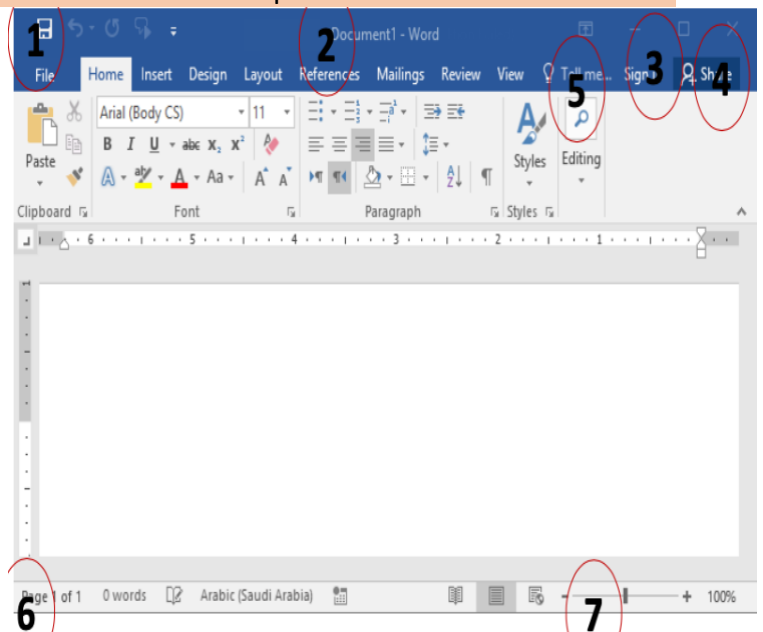
The **AutoCorrect** feature fixes common spelling mistakes as they are typed.

What does AutoRecover or autosave do in Word processing Software?

The **AutoRecover** or autosave feature automatically saves a document as often as you want.

Write the feature names that has been given a number in the picture below?

1. **Quick Access toolbar**: provides access to commonly used features.
2. **Title Bar**: shows document name.
3. **Sign in**: lets you create, edit, and share your files.
4. **Share**: start sharing.
5. **Tell me what you want to do**: find the commands you need.
6. **Status bar**: displays information about your document.
7. **Zoom controls**: change the document view.



Spreadsheet Software

Chapter-7

What is Spreadsheet?

A spreadsheet is a program that **processes information** that is set up in **tables**.

Name three ways spreadsheet can be used to?

- Calculate numbers and show result.
- Calculate new results when the numbers are changed.
- Create charts to display data.

What is worksheet?

When you use a spreadsheet program, your data goes into a special kind of document called a **Worksheet**, a **grid** made of vertical columns and horizontal rows.

What is cell in spreadsheet mean?

Each column and row meets to make a **box** called a **cell**.

What is cell address?

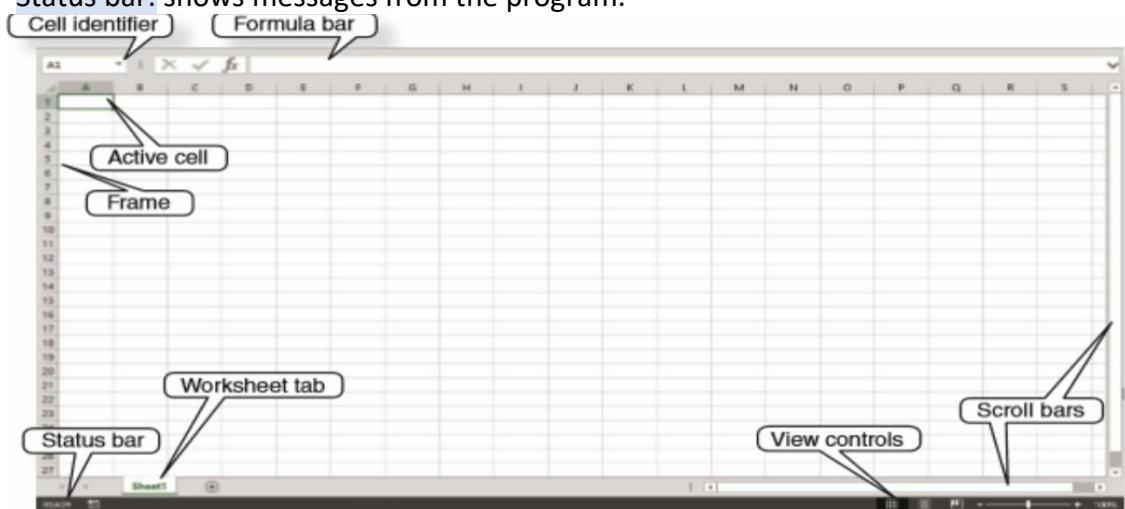
Each cell in the grid is identified by a **unique name**, this is the **cell address**.

What are the spreadsheet examples?

• Desktop	OpenOffice Calc
	Microsoft Office Excel
• Online	Google Sheet
	Microsoft Excel 365

What are the parts of a Worksheet?

- Active cell: the cell currently in use.
- Cell identifier: an area shows the cell address of the cell that is active.
- Formula bar: displays what you type.
- Scroll bars: allow you to see another part of the worksheet.
- Worksheet tabs: switch between worksheets.
- Status bar: shows messages from the program.



Spreadsheet Software

Chapter-7

What are Formulas in spreadsheet?

Formulas are **mathematical expressions**. In a spreadsheet, most formulas reference the data entered in one or more cells. Example: =A13 + B13 + D13

What is Function in spreadsheet?

Functions are built-in formulas for **performing calculations**, such as addition in a table.

Give examples for Functions in spreadsheet?

• SUM	Adds values and displays the total	=SUM(A1:A10)
• AVERAGE	Finds the arithmetic mean	=AVERAGE(A1:A10)
• MAX	Finds the largest value in a set of values	=MAX(A1:A10)
• MIN	Finds the smallest value in a set of values	=MIN(A1:A10)
• TODAY	Give you Today's date	=TODAY()
• NOW	Give you the current time	=NOW()
• COUNT	Counts the number of cells that contain values	=Count(A1:A10)
• COUNTA	Counts the number of cells that are not empty in a range	=CountA(A1:A10)
• IF	Allows you to make logical comparisons between a value	=IF(A1="Yes",10,20)

How many types of data can you enter in a worksheet?

You can enter **three** types of data in worksheet.

What are the three types of data that you can enter in a worksheet?





1. Values: Number, such as a whole number, a fraction, or decimal.
2. Label: Text or a combination of numbers and text.
3. Dates and times

What is the Automatic Charting?

A powerful automatic tool of spreadsheet programs is the **chart-creating feature**.

What does Chart-creating feature do?

The program **takes** the data from a worksheet and **transforms** it into a **chart**.

Chart type	Use	Examples
Column 	Uses vertical bars to show changes over time emphasizing fixed points in time.	Compare the number of people in a country in five different years.
Bar 	Uses horizontal bars to show different amounts if the same item.	Compare number of people in five different countries.
Lines 	Uses lines to show changes over time on an ongoing basis.	Show the sales of several products over a period.
Pie 	Uses segments of a circle to show different parts in relation to the whole.	Show the percentage of a country's population in different age groups.

Presentation Software

Chapter-8

What is presentation software?

Presentation software allows you to **organize** and **display information visually** so it can be viewed by a group of people.

What is slide in Presentation?

Information in a presentation is organized into separate pages, each page called a **slide**.

What is template in Presentation?

Work in a presentation may begin by selecting a **template** or a **preformatted version** of a certain type of document.

What are the Presentation examples?

• Desktop	OpenOffice Impress
	Microsoft Office PowerPoint
• Online	Google Slides
	Microsoft PowerPoint 365

How many ways can you view a presentation?

• Normal view	• Text and graphics can be added, removed, or edited.
• Slide Sorter view	• Displays thumbnails of all the slides in presentation.
• Notes Page view	• Part of the screen displays the slide and the rest of the screen shows a text box.
• Slide Show view	• The primary on-screen method of previewing and displaying slides during presentation.
• Reading view	• Similar to Slide Show view, except the slides are not displayed full-screen.

What does Slide layout mean?

Each slide in a presentation can have its own **layout**.

What does Slide Layout contain?

Slide layouts contain **formatting, positioning, and placeholder boxes** for all of the content that appears on a slide.

What are Placeholders?

Placeholders are dotted-line containers on slide layouts that **hold** such **content** as titles, body text, tables, charts, SmartArt graphics, pictures, clip art, videos, and sounds.

What does Slide Layouts include?

Some layouts include:

- | | | | |
|----------------------------|------------------------|--------------|------------------|
| • Title and Content layout | • Two Content | • Comparison | • Title Only |
| • Content with Caption | • Picture with Caption | • Blank | • Section Header |

Presentation Software

Chapter-8

What can you insert in presentation?

You can **insert** many types of **graphics, tablets** and **charts**.

What is PowerPoint drawing tools? And what is AutoShape?

PowerPoint drawing tools include **ready-to-use shapes**, called **AutoShapes**.

What does multimedia presentation combine?

A **multimedia** presentation combines **text and graphics** with sound and animation or moving images.

What does Reviewing do in Presentation?

Checking and correcting spelling and grammar.

What does Preview do in Presentation?

Checking inconsistencies such as incorrect fonts and spacing, poorly timed transitions, and animation that are out of order.

What is transition effect in Presentation?

A **transition effect** is a **multimedia feature** that **adds visual interest** as your presentation moves from one slide to the next.

What does rehearsed presentation mean?

In rehearsed presentation you set the program to **record** how long you spend presenting a slide, and the program automatically sets the timing based on your rehearsal.

How many key formats can you print your slides?

Three keys:

- **Full Page Slide**: printing each slide on its own page.
- **Notes Page**: print notes pages.
- **Handouts**: print multiple slides on the same page with space to write notes.

Database Basics

Chapter-9

What is Database?

Database is an **organized collection** of information.

Why should we use Database?

Because Database make it easy to **store, organize and retrieve information**.

What are the advantages of Database?

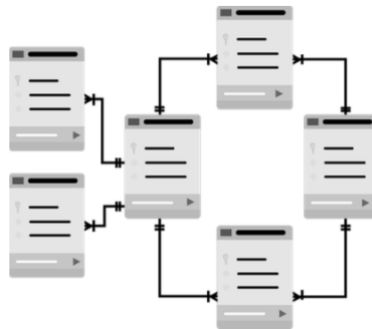
1. Enter information.
2. Store large amounts of information.
3. Find information quickly.
4. Organize information in different ways.
5. Update information.

What are the structured Database parts?

- Tables
- Records
- Fields

What does tables contain in Database?

Each table contains a collection of **related** data.



What are records mean in Database?

Data in each table is **split** into **smaller units** contain related information about one item, **these units called record**.

Ahmed	Saleh	s@s.com	s1
Hamad	Mohsen	h@h.com	s2
khalid	Al	K@k.com	s3

Record ←

What are fields in Database?

Each **separated piece** of data that is **stored** in a **record** is called **field**.

Why is each field is set up?

Each field is set up so that only a certain type of information (**Data Type**) is permitted in that field.

Database Basics

Chapter-9

What are the Data types?

- Text-letters For name and address.
- Number Can be used in calculation.
- Logical Yes/no True/false.
- Currency For billing information
- Date/Time
- Memo Unlimited amount of text information

Name one type of Database programs?

Database Management System (DBMS): which is a **software** used to **manage the storage, organization, processing, and retrieval of data** in a database.

Name two kinds of DBMS?

1. Flat-File database:
 - allow you to work with data in only one table.
2. Relational database:
 - use data from several tables at the same time
 - This is because tables are linked by a key filed.

What does Sorting data do?

Sorting data lets you **locate** information **quickly**.

What are the types of Sorting in Database?

- Alphabetical: Letters and symbols.
- Numerical: Numbers and values.
- Chronological: Dates and times

How many orders can the data be sort in?

- Ascending order: A,B,C or 1,2,3.
- Descending order: C,B,A or 3,2,1.

What is Form in Database?

Form is a **window** that makes it easier for users to **view, enter and edit data**.

What is Querying Data in Database?

A query is a **user-created direction** that tells the database to **find and display specific records**

What is Report in Database?

Report is an **ordered list** of selected **records** and **fields** in an **easy-to-read format**.

Communications and networks

Chapter-10

What does telecommunications mean?

Telecommunications is **sending information** over a **telephone network**.

What are the types of telecommunications?

Duplex: people on both sides can communicate at the same time.

Half-duplex: only one side can communicate at a time.

How do we make a phone call?

We make phone calls through the **Public Switch Telephone Network**.

From what does the Public Switch Telephone Network build?

Public Switch Telephone Network **built** from **copper wires** and **other cables** and **forms** a **circuit** between the caller's telephone and another telephone.

How does the telephones connect?

Telephones connect to a common network, called a **local loop**, for service within a neighborhood.

Which system does local loop use to send electrical signals?

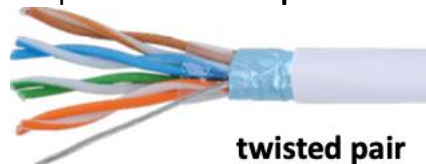
Much of the local is an **analog system**, which sends electrical signals that carry voice and other sounds.

What can digital connections carry?

Digital connections use computer code and can carry **voice**, **data**, and **video** on a **single line**.

What technology used in telephone system?

The **telephone system** used to depend on **twisted pair** technology



twisted pair

What does twist pair technology refers to?

A pair of copper wires that are twisted together to **reduce interference**, or **outside noise**.

What does fiber-optic cables stand for?

Fiber-optic cables are stands of **fiberglass** that **transmit digital data** by **pluses of light**.



Fiber-optic

What is microwave? Or what did we use before fiber-optic cables?

Before fiber-optic cables, we were using a **high-frequency radio waves** called **microwave signals** to relay long-distance telecommunications.

Communications and networks

Chapter-10

How does wireless networks connect to computers?

Wireless networks, or WiFi, connect to computers by **radio signals**.

What is Bluetooth technology?

Bluetooth technology is a wireless technology that works over **short distance**.

What are infrared signals?

Infrared signals are **light waves** that **cannot** be seen by the **human eye**.

What does modem do?

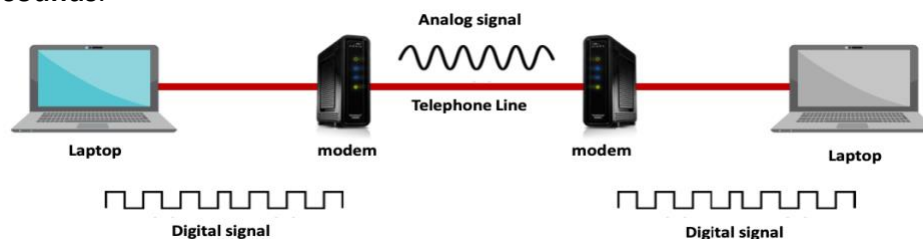
A modem makes your computer and telephone lines or TV cables to **communicate**.

From where did the word "modem" come from?

The word modem names the work the device does: **modulation** and **demodulation**.

What happen to the modem through modulation?

Through **modulation**, the modem changes the **digital signals** of the computer to the **analog sounds**.



What happen to the modem through demodulation?

Through **demodulation**, the modem changes the **analog signals** received by modem to the **digital signals** used by a computer.

"Demodulation doesn't match with Digital (D doesn't come with D)"

How can we measure the modem speed? Which unit?

The modem speed is measured in **bits per second**, or **bps**, which is the amount of data that can be sent in one second.

What is Bandwidth?

Bandwidth is the **amount of data** that can be sent through a modem or network connection. **The more bandwidth, the faster the connection.**

What is Broadband?

Broadband is the **general term** for all high-speed digital connections

what does Broadband do?

Broadband transmits at least 1.5 megabits per second (Mbps), through current broadband services between 10 to 30 Mbps.

Communications and networks

Chapter-10

What does DSL stands for?

Digital Subscribers Line

What wires does DSL use?

DSL uses the **same copper wires telephones use**.

What is the different between Telephone copper wires and DSL copper wires?

Telephone copper wires: transmit analog data.

DSL copper wires: transmits digital data.

For how far should the DSL user be?

A user must be within a **few miles** of a **local telephones switching station** for a connection to be made.

What is the difference between ADSL and SDSL?

- **ADSL (asymmetric DSL)**: allows download speed up to 1.5 mbps and upload speed of 128 kbps. Receive data (download) faster than send it (upload).
- **SDSL (symmetric DSL)**: allows to send and receive data at the same speed.

What network do the telephone companies rely on?

Telephone companies that offer DSL rely on a **digital network** called **SONET** (Synchronous Optical Network).

What kind of cables does SONET use? And why?

SONET uses **fiber-optic cables**, to provide faster connections and greater bandwidth.

Name some of internet uses?

You can use the internet to **send** and **receive messages** over the telephone.

What does VoIP stand for?

Voice over Internet Protocol.

What is VoIP?

VoIP is a **technology** allows you to have a telephone connection over the Internet.

What is a computer network?

A computer network is **two or more** computers connected to one another to **share resources**.

Name some of networks benefits?

Networks allow users to work together, access files and programs, and share printers and other equipment.

Communications and networks

Chapter-10

What does NIC stands for?

Network Interface Card.

Why do we use NIC?

To be able to **connect** with **networks**, some computers need NIC to handles the flow of data to and from the computer in both wired and wireless networks.



What does workstation mean?

A **workstation** is a computer connected to a computer network.

What does node mean?

In a large network, a workstation is also called a **node** by the people who take care of the network. A **node is anything connected to the network.**

What does gateway mean?

A **gateway** is a node on your network that **enables communications** with other networks.

What do we call the communication on a network?

The **communication** on a network is called **network traffic.**

What is network traffic?

Network traffic is the **electrical pulses** of information sent by the network cards to carry data through the network wires to its destination.

How does the computers speak with one another?

They must use the same protocol, which let computers to speak with one another.

What does protocol mean?

A **protocol** sets a standard format for data and rules for handling it.

Communications and networks

Chapter-10

What is network topology?

A **map** of network **shows** the **physical structure** of the network, including servers, work-stations, and other network devices. This layout called **network topology**.

Name four topology designs?

- Bus
- Star
- Ring
- Mesh

What is Bus topology design?

Bus topology is rare, older network design, in which devices are connected to a **single network line**.

How many computers can communicate in Bus topology?

Only one computer can communicate at a time.

What happen to the data when two computers transmit at the same time in Bus topology?

Data collisions occur when two computers **transmit** at the same time data is **lost** or **damaged**.

How does the computer make sure the bus is clear in Bus topology?

Computer '**listen**' to make sure the bus is clear before transmitting.

What happen if a single line is broken in Bus topology?

If a single line is broken, **the entire network fails**.



Communications and networks

Chapter-10

What is Star topology design?

Star topology design connect each network device to a **central hub**.

What does Hub mean?

A **hub** is a **connection point** for all the computers, printers, and other equipment on the network.

What happen if hub or point of connection device fails in Star topology?

When **hub** or connection point device **fails** the **entire network fails**.

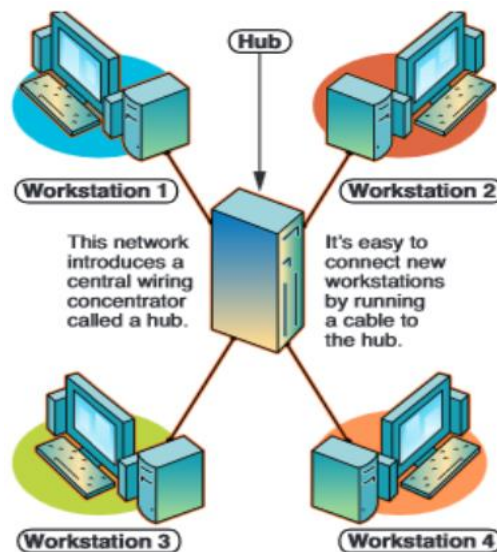
What Star topology advantages and disadvantages?

- Advantages:

1. Can handle large numbers of nodes by adding more switches (connection point device).
2. Easy to expand.
3. Failure if one computer or cable doesn't bring down the entire network.

- Disadvantages:

1. More expensive and requires more cable.
2. Failure of switch cuts off all devices on that switch from the network.



Communications and networks

Chapter-10

What is Ring topology?

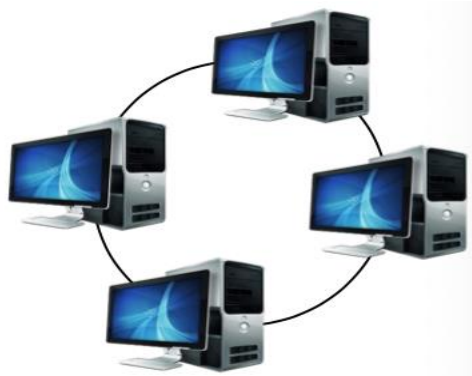
Ring topology connects all the network devices in a **circle**. To control collisions

Name two collisions in Ring topology?

- Network pass token.
- Special units of data, around the ring.

What happen when network device fails in Ring topology?

When one network device fails the entire network fails.



What ring topology advantages and disadvantages?

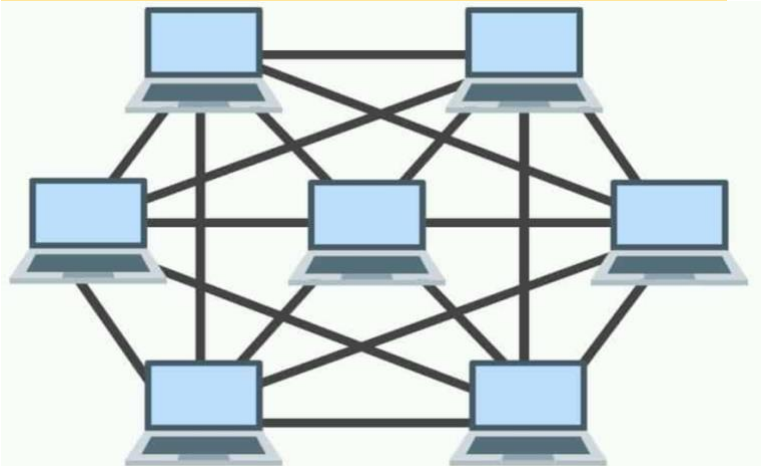
- Advantages:
 1. Fair allocation of network resources
 2. Large numbers of computers don't affect performance.
- Disadvantages:
 1. The failure of one computer will bring down the entire network (can't retransmit the broken).

What is Mesh topology?

Mesh topology connects all devices with **multiple paths**, redundancies exist.

Where does Mesh topology usually used?

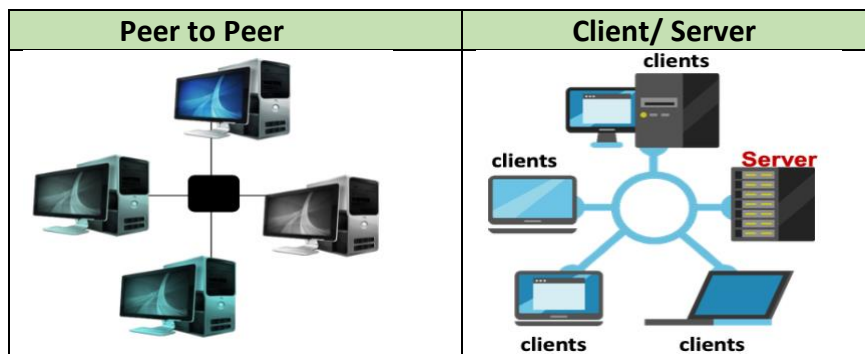
Mesh topology is usually used in the **Internet structure**.



Communications and networks

Chapter-10

What are network **models**?



What is Peer to Peer Network?

In a **peer-to-peer network** (P2PN), the network is usually **small**.

How many computers does P2PN are made up?

P2PN made up of **two to ten computers**, and all computers on the network are **equals**.

In P2PN, can you choose which files will be shared?

Yes, you can, each user **decides** wither any files on his or her computer will be **shared**.

For whom does P2PN ideal?

A peer-to-peer network is **ideal** for **small office** and **homes**.

What is Client/ Server Network?

A client/ server network is one **powerful** computer that provides information and management services to the workstation computer.

Who are the clients in Client/ Server Network?

The **computers** are the **clients** in Client/ Server Network.

What does the main computer in client/ server system called?

The **main** computer in a client/ server system is called the **server**.

In client/ server network, who is managing and securing the entire network?

The Network Operating System (NOS) manages and secures the entire network.

Communications and networks

Chapter-10

What are the types of network?

1. **Local Area Network (LAN)**: network in which all the workstations and other equipment are near one another.
2. **Metropolitan Area Network (MAN)**: network that covers a large area.
3. **Wide Area Network (WAN)**: connects computers and other resources that are miles or even continents apart.

What is the difference between Intranet and Extranet?

- **Intranet**: private network that uses the same TCP/IP protocol as the internet.
- **Extranet**: allows for limited public access, intranet can be converted to extranet.

What is Ethernet?

Ethernet is the most common networking technology used on LANs.

How to create Ethernet?

To create the network, Ethernet cables plug into Ethernet ports on computers, LANs, and cable or DSL modems.

What is network security?

Networks use **firewalls** as a level of **security**.

What is firewall? And what is the purpose of it?

A firewall is a **filtering system**, that **opens** or **blocks programs** and ports to keep outside data from entering the network.

The Internet and the Web

Chapter-11

What is the internet?

The internet is a **global WAN** (network of networks).

What does internet connect?

Internet **connects** everything from **single computers** to large **networks**.

What does internet servers do?

Internet servers are the computers that **provide** services to other computers by way of the internet.

Who are the internet clients?

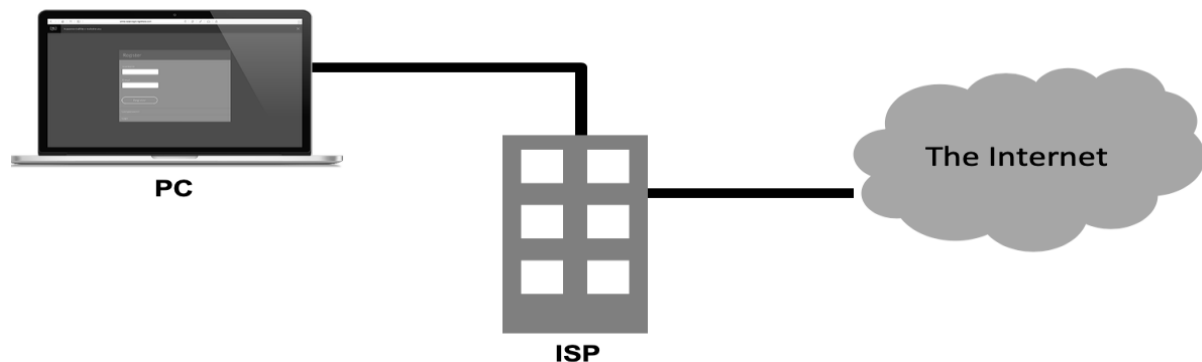
Internet **clients** are the **computers**, that request services from a server.

What is the difference between The Internet and WAN?

The Internet	WAN
<ul style="list-style-type: none">Public	<ul style="list-style-type: none">Usually private
	<ul style="list-style-type: none">Connection is secure
<ul style="list-style-type: none">Connection is not secure	<ul style="list-style-type: none">Used for more than just a browsing Web pages
	<ul style="list-style-type: none">Provides access to network resources.

What does ISP mean? And what is it?

Internet Service Provider (ISP), it is a company that provides a link from your computer to the internet.



What is the IP Address?

Each computer that connects to the internet has to be **uniquely identified**.

What does IP stand for?

Internet Protocol.

How many part numbers does the IP address is assigned?

Every computer is assigned a **four-part number** separated by periods called the IP address.

Write an example for IP address?

10.101.122.11

The Internet and the Web

Chapter-11

What is the Web browser?

Web browser is a software that had ability to browse the contents of the web.

What are the examples of Web browser?

- Google Chrome
- Mozilla Firefox
- Apple Safari
- Microsoft Edge

What does WWW stand for?

WWW is a **World Wide Web**.

What is World Wide Web (WWW)?

It is a **huge collection of hypertext documents**, where certain words or pictures can serve as hyperlinks.

What is a hyperlink mean?

Hyperlink is a link to another document of the WWW.

What does URL stand for?

URL is a **Uniform Recourses Locator**.

What is URL?

Every document has a **unique address** (which is URL), and this address tells exactly where the document is located on the internet.

What does HTML stand for?

HTML is **Hyper Text Markup Language**.

What does HTML do?

HTML **create** and **format** Web documents.

What kind of style does programmers use to describe rules?

Programmers use a **style sheet**, or a **separate document** that describes rules used to define how the elements of the pages in a web site will look.

What is CSS?

Cascading Style Sheet, or CSS, is a style sheets that are used for **HTML**.

What does CSS allow you to control?

CSS allows you to control:

- Color – fonts – positioning
- Spacing – sizing – transitions

What are the differences between The Internet and WWW?

The Internet	World Wide Web
• Network of computer networks.	• Service available on the Internet.

The Internet and the Web

Chapter-11

What are the Web Terms?

1. Web page	<ul style="list-style-type: none">• Document id the Web
2. Web site	<ul style="list-style-type: none">• Collection of related pages, which are connected using hyperlinks.• Have a primary page called home page or index page.
3. Web server	<ul style="list-style-type: none">• Stores Web pages and responds to requests from Web browsers.

What is domain name?

Domain name **identifies** one or more IP addresses and used to locate information on the Internet

What are the most common domain names?

.com, .edu, .org, .net, etc. those called the **Top-level domains**.



How to specifies the protocol required to access a document?

The **first part of a URL** specifies the protocol required to access the document.

What does Web documents use?

Web documents use **http**.

What does http stand for?

Hypertext Transfer Protocol.

Some URLs might have other protocols, name them?

- **FTP** (File Transfer Protocol)
- **Talent**: allows for access to remote computers.

Name eight activities on the internet?

<ul style="list-style-type: none">• IM	<ul style="list-style-type: none">• E-mail	<ul style="list-style-type: none">• Searching	<ul style="list-style-type: none">• Software as a Service
<ul style="list-style-type: none">• Podcast	<ul style="list-style-type: none">• Web feed	<ul style="list-style-type: none">• Blog	<ul style="list-style-type: none">• Wiki

The Internet and the Web

Chapter-11

What is IM stand for?

Instant Messaging.

What does Instant Messaging means?

It is when you send real-time messages to another Internet user.

Why does E-mail has replaced traditional mail and telephone services for many Internet users?

Because Electronic mail **fast** and **easy**.

Describe the E-mail address?

jsmith@isp.net, (jsmith is the Username) (isp.net is the domain name) (.net is the TLD).

What is searching in internet mean?

Searching is a website that finds and lists information that meets a specific search.

Give four examples for searching websites?

- Google
- Bing
- Yahoo
- Ask.com

How can you improve search effectiveness?

You can improve search effectiveness by using **advanced search tools**.

What does Boolean search mean?

Boolean search use special terms and characters. Such as Inclusion and Exclusion.

What is the Inclusion Operations?

Inclusion Operations is a plus sign (+) or the word AND. Find only pages that contain a match for all the specified words. Example: IT+job+Makkah

What is the Exclusion Operations?

Exclusion Operation is a minus sign (-) or the word NOT. Find pages that contain certain words but not others. Example: IT+job-Dammam

What does SaaS stand for?

Software as a Service.

What is the purpose of SaaS?

In the past people and companies purchase software programs and install them on their computers or networks, **after SaaS more applications are stored on cloud servers.**

What is a SoundCloud?

Is a **Podcast**, which is an audio or video file that is created for downloading to an iPod or MP3 player.

What is FeedReader?

Is a **Web feed**, which is a service that automatically downloads Web page content that a user signed up for.

What is WordPress?

Is a **blog** or **Weblog**, which is a type of Web page dairy that people create to share their thoughts or opinions.

What is Wikipedia?

Is a **wiki**, which is a collaborative Web page that anyone can edit.

Issues for Computer Users

Chapter-12

What does Personal Information include?

Personal information includes:

- Email address
- First and last name
- Shipping address
- Credit card information

Does your personal information saved from being gathered?

No, **sometimes** information is gathered without a person's knowledge or approval.

What are some examples for business gather information?

Some business gathers information like:

- Web site registration
- Shopping
- Social networking site
- Search engine.

What is the cookie?

A **cookie** is a **small file** that is saved to your hard drive when you visit some **Web sites**.

What is the use of cookie?

Cookie can be used to gather data on your browser and shopping habits.

How do you disable cookie?

You can **disable** cookie on your web browser for **privacy reasons**.

Issues for Computer Users

Chapter-12

What does Cybercrime often refer to?

Cybercrime often refers to crimes carried out by means of the Internet.

What is Cybercrime mean?

Cybercrime based on the **ability** of people to tap **illegally** into computer networks

What does cybercrime create?

Creating a virus, worm, or Trojan horse program to infiltrate computer and damage or delete data.

What is Malicious Software?

Malicious Software is a software designed to **cause damage** to computer or data.

What does Malware stand for?

Malware is short for "malicious software".

What are the types of Malicious Software?

Malware	Virus	<ul style="list-style-type: none">• A type of malware that can copy itself and spread through software.
	Worm	<ul style="list-style-type: none">• A computer virus that spreads over a network without user execution.
	Trojan horse	<ul style="list-style-type: none">• Pieces of software that looks legitimate typically tricked into loading and executing it on their computers.

What are the cybercrime techniques?

Techniques	Scanning or probing	<ul style="list-style-type: none">• Try many different passwords until it works.• Networks can be blocked from scanners by limiting the number of failed attempts to log onto the system.
	Superzapping	<ul style="list-style-type: none">• Program allows authorized users to access a network in an emergency situation by skipping security measures.
	Spoof	<ul style="list-style-type: none">• Use of false Internet Protocol (IP) or e-mail address to gain access.
	Phishing	<ul style="list-style-type: none">• Tries to lure victims into giving personal information usually by using an e-mail that looks like it comes from an official and legitimate source.
	Time Bombs	<ul style="list-style-type: none">• Program that sits on system until a certain event.
	Scams	<ul style="list-style-type: none">• Use email messages to scam you into sending them money.
	Social engineering	<ul style="list-style-type: none">• used to trick you into clicking a link that will install a virus or capture your personal information

Issues for Computer Users

Chapter-12

What is computer crime?

Computer crime is any act that violates state or federal laws and involves using a computer.

How many ways can Computer crime cause business to lose money?

- | | | |
|---------------|-------------|------------------|
| 1. Staff time | 2. Downtime | 3. Bad publicity |
|---------------|-------------|------------------|

What does the law enforcement do to catch cybercriminals?

Law enforcement officials are using **technology** to catch cybercriminals.

Name three law enforcement that helps to catch cybercriminals.

1. Computer Crime and Intellectual Property Section (CCIPS).
2. Computer Hacking and Intellectual Property Project (CHIP).
3. National Infrastructure Protection Center (NIPC).

How to avoid cybercrime?

Many computer crimes start when an **unauthorized user** learns a password and gains unauthorized entry into computer network.

Name three ways that make cybercrime happen?

- Guessing an easy password
- Finding recorded password
- A packet sniffer

What is Packet Sniffer?

Is a **program** that **examines data streams** on networks to try find information, such as passwords.

How to protect your personal data?

- **Strong password:** uses a combination of at least six upper- and lowercase letters, numbers, and symbols. Example: A@123bs\$crd
- Passwords **dose not** include things like: Family names, Nicknames, Birthdates.
- **Private Browsing:** do not save (visited pages, cookies, searches).
- Use different e-mail address.
- Avoid site registration.
- Install and use an **antivirus** program to discover, quarantine, and remove viruses, spyware, and malware.
- **Firewall:** a program that restricts unauthorized access and used to help blocking unauthorized users from accessing your computer through a network.

How to be smart online?

- Make sure your **browser** settings are at the highest level of security and privacy.
- **Delete** e-mails from unknown senders without opening them.
- Do business only with established companies that you **trust**.
- Never reveal financial or personal information, even if the request sounds legitimate.
- **Do not add** anyone as a “friend”.
- Manage your account setting to maintain **privacy**.
- Learn how to change your **status** to invisible.
- Remember that your posts and profiles can be easily **tracked**.
- Never give out **private** information.

Where does Versioning build?

Versioning is built into some operating systems and applications, so they automatically save a previous version of a file when you make changes to the current version.

What is the function of Versioning?

To **safeguards** your data.

How many types does Backup Data have?

1. **Full back ups:** copy everything stored in your computer. And should be done at least once a month.
2. **Incremental back-ups:** copy only those files that have changed since the last full back-up-. These should be made regularly.

Name three functions of Firewall?

- Windows Firewall is **automatically** enabled.
- Does not **delete** viruses.
- **Blocks** unwanted instructions.

How to enable or disable windows firewall?

- Click Start.
- In the search box type firewall and press Enter.

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