



Ibn Khaldoun University – Tiaret  
Faculty of Mathematics and Computer Science  
Department of Computer Science



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**Module : English**

**Level : 2LMD**

**Semester : 1**

**Teacher : Mr. LAKMECHE**

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**UNIT ONE :**

**Networks**

**Learning Objectives :** By the end of this unit, students should :

**1- be better at :**

- scanning a text for information,
- matching diagrams with a description,
- linking information in text and diagrams to infer new information.

**2- be able to :**

- make simple predictions using the structure of conditional type 1 : *If X happens, Y will happen.*

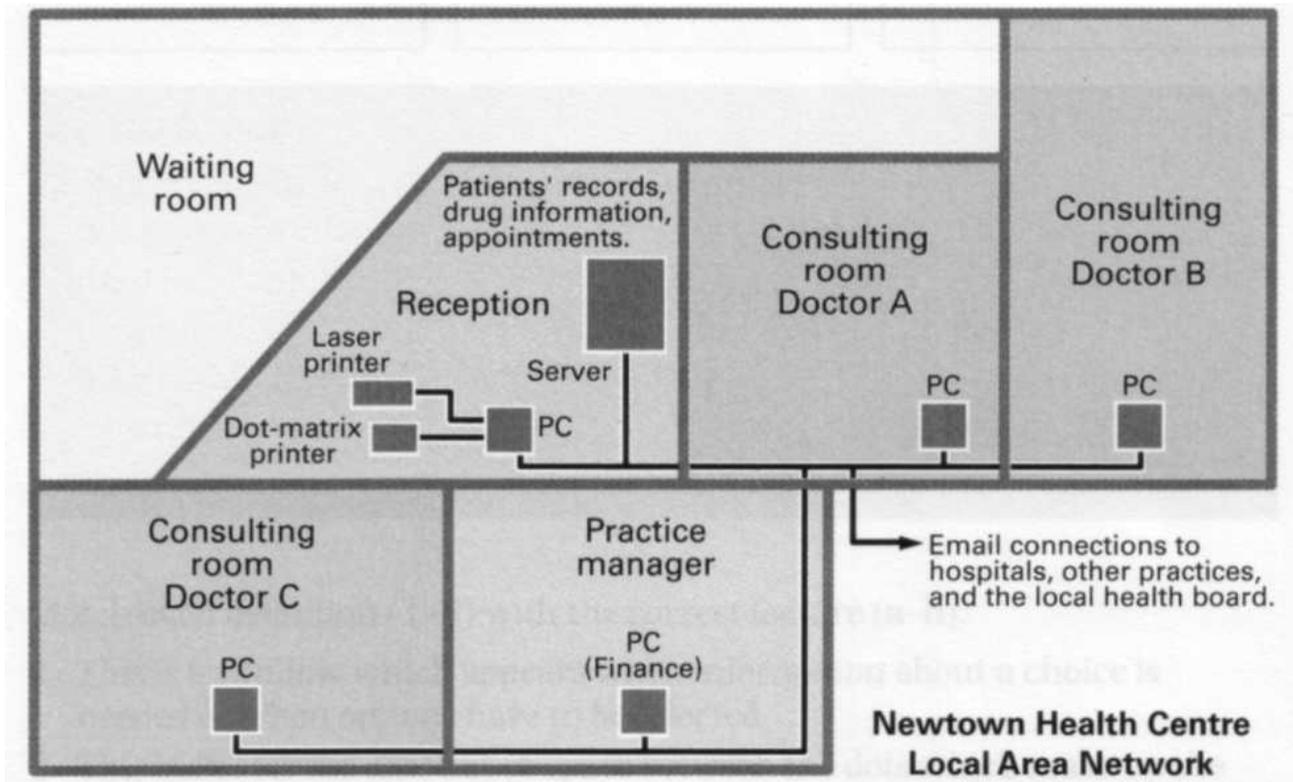
**3- know and be able to :**

- use these words and abbreviations: *LAN, WAN, ring/bus/star, topologies, hub, server, password, network.*

## A- PREREADING

**Task 1 (Warming up):** *This is an example of a typical local area network (LAN) in a small health centre. Study the diagram then answer the following questions.*

1. Who are the users?
2. What kind of hardware is used?
3. What do the doctors use it for?
4. What do the receptionists use it for?
5. What does the practice manager use it for?



### **Key:**

1. staff of a health centre: doctors, receptionists and practice manager; ...
2. five PCs, a server, a laser printer and a dot-matrix printer (for prescriptions, which require special paper)
3. checking patients' records, checking drug information and appointments, emailing other practices, hospitals, the local health board, ...
4. making appointments, updating patient records, emailing, ...
5. finance-practice, accounts, salaries, etc.

**Task 2:** *List some places where you might find a local area network.*

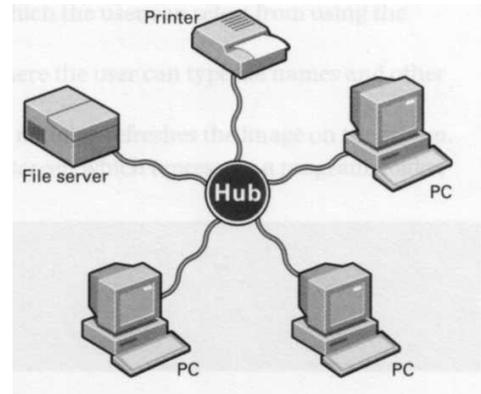
**Key:** LANs are found in schools, colleges, hotels, department stores, businesses, etc. Some people even have their homes networked.

## B- READING - 1

## Networks

**Task 3:** Study this diagram then answer the questions.

1. What is a *network*?
2. What are its hardware components?
3. What is the difference between a *local area network* and a *wide area network*?
4. What advantages do you think networks have?



Now read this text to check your answers to Task 3.

### What is a network?

A network is simply two or more computers linked together. It allows users to share not only data files and software applications, but also hardware like printers and other computer resources such as fax.

Most networks link computers within a limited area - within a department, an office, or a building. These are called Local Area Networks, or LANs. But networks can link computers across the world, so you can share information with someone on the other side of the world as easily as sharing with a person at the next desk. When networks are linked together in this way, they are called Wide Area Networks, or WANs.

Networks increase productivity by allowing workers to share information easily without printing, copying, telephoning, or posting. They also save money by sharing peripherals such as printers.

### Key:

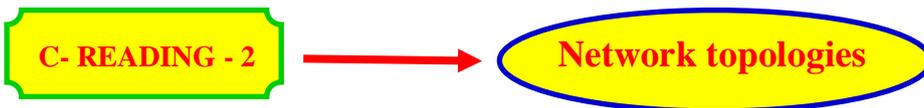
1. What is a *network*?
  - ▶ Two or more computers linked together to allow users to share files, software and hardware.
2. What are its hardware components?
  - ▶ Server, clients, hub.
3. What is the difference between a *local area network* and a *wide area network*?
  - ▶ LANs operate in limited areas whereas WANs operate across countries and continents.
4. What advantages do you think networks have?
  - ▶ Easy communication and information sharing; allow expensive software and hardware to be shared.

**Task 4:** *With the help of the diagrams and the text above, identify these hardware components of the network.*

1. \_\_\_\_\_ Most networks have at least one central computer which all the desktop computers connect to. This is the most important computer on your network. It stores the data files and application software programs that the users need to access or share with others.
2. \_\_\_\_\_ This is the desktop computer or notebook computer on your desk. It is linked to the server, and can access files and applications on it. Each computer on the network has a device called a network interface card which connects the computer to the network. Many computers come with these cards fitted as standard.
3. \_\_\_\_\_ Once you have a network you can share any number of these, including printers, scanners, CD-ROM drives, and backup devices.
4. \_\_\_\_\_ Desktops typically connect via telephone-type cabling to this intermediary device, which enables communication between servers and desktops.

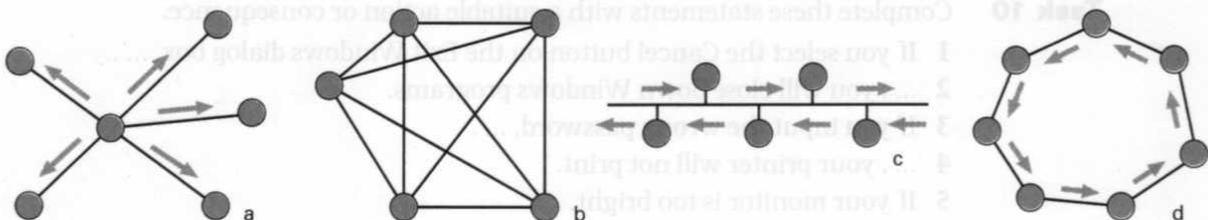
**Key:** [This activity aims to develop inference skills. It requires students to combine text and visual Information.]

1. **Server** ► Most networks have at least one central computer which all the desktop computers connect to. This is the most important computer on your network. It stores the data files and application software programs that the users need to access or share with others.
2. **Client** ► This is the desktop computer or notebook computer on your desk. It is linked to the server, and can access files and applications on it. Each computer on the network has a device called a network interface card which connects the computer to the network. Many computers come with these cards fitted as standard.
3. **Peripherals** ► Once you have a network you can share any number of these, including printers, scanners, CD-ROM drives, and backup devices.
4. **Hub** ► Desktops typically connect via telephone-type cabling to this intermediary device, which enables communication between servers and desktops.



**Task 5:** *Study these diagrams. They show four network topologies. Try to match each diagram with the correct name.*

1. ring    2. bus    3. star    4. mesh



*Now read the following text and check your answers. The text describes only three topologies.*

Computers in a network can be connected in different ways, in different topologies. The three basic ways of connecting computers are: a star, a ring, and a bus topology.

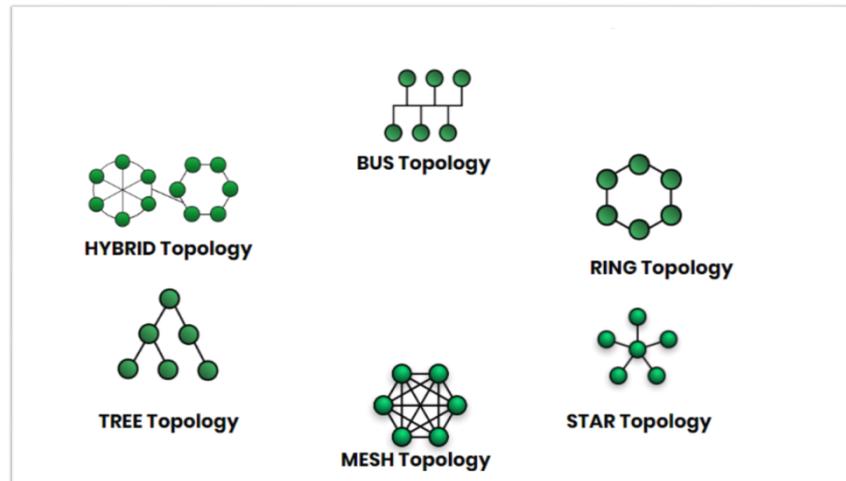
A star topology has a server computer at the centre and a separate cable connecting the server to each of the other computers in the network. The central server controls the flow of data in the network. If the central server fails, the whole network will fail.

In a ring topology, each computer is connected to its neighbor in a circle. The data flows in one direction round the ring. If a cable breaks or one of the computers fails, the whole network will be affected.

A bus topology has all the computers connected to a common cable. The data travels in both directions along the cable. If a computer fails, or we remove one from the network, it won't affect the other computers. Most networks are usually a combination of star, ring and bus topologies to overcome some of these problems.

**Key:** [The text describes only three of the four topologies. The mesh topology is not commonly used, therefore, it is not described in the text]

1	2	3	4
d	c	a	b



**Task 6:** *Read the text again and tell which topologies these statements refer to:*

1. If one of the computers fails, the whole network will be affected.
2. If we remove a computer from the network, it won't affect the other computers.
3. If the main cable fails, the whole network will fail.
4. If the central server fails, the whole network will fail.
5. If a cable breaks, the whole network will be affected.
6. If a computer fails, it won't affect the other computers.

**Key:**

1. If one of the computers fails, the whole network will be affected. ▶ **ring**
2. If we remove a computer from the network, it won't affect the other computers. ▶ **bus**
3. If the main cable fails, the whole network will fail. ▶ **bus**
4. If the central server fails, the whole network will fail. ▶ **star**
5. If a cable breaks, the whole network will be affected. ▶ **ring**
6. If a computer fails, it won't affect the other computers. ▶ **bus**



▶ The sentences in Task 6 predict the consequences of an action. For example:

The cable fails.    The whole network will fail.  
 (action)                      (consequence)

**If** the cable **fails**, the whole network **will fail**.  
 (present simple)                      (will future)

▶ Note that the action is in the Present simple, and the consequence in the will future.

▶ Study these other examples:

Action	Consequence
If you <u>don't use</u> the right password,	you <u>won't get</u> access to the network.
If you <u>don't save</u> your document,	you <u>will lose</u> the information.

▶ Contractions: 'll = will    /    won't = will not

**Let's practise**

**Task 7:** *Link each action (1-10) with a suitable consequence (a-j); using (if):*

Example:    If you place a floppy disk near a magnet, you will destroy the data.

1	2	3	4	5	6	7	8	9	10

1	you place a floppy disk near a magnet		a	the cursor moves to the left
2	you press Print Screen		b	the computer hangs
3	you input the correct password		c	it is not lost when you switch off
4	you add memory to a computer		d	you damage the drive

<b>5</b>	you move the mouse to the left	<b>e</b>	you copy the screen
<b>6</b>	you store data in RAM	<b>f</b>	you have access to the network
<b>7</b>	you use a faster modem	<b>g</b>	you destroy the data
<b>8</b>	there is a memory fault	<b>h</b>	it runs faster
<b>9</b>	you press the arrow key	<b>i</b>	your phone bills are lower
<b>10</b>	you move a CD-ROM drive with the disk in place	<b>j</b>	the cursor moves across the screen

**Key:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>g</b>	<b>e</b>	<b>f</b>	<b>h</b>	<b>a</b>	<b>c</b>	<b>i</b>	<b>b</b>	<b>j</b>	<b>d</b>

1. If you place a floppy disk near a magnet, you destroy the data.
2. If you press Print Screen, you copy the screen.
3. If you input the correct password, you have access to the network.
4. If you add memory to a computer, it runs faster.
5. If you move the mouse to the left, the cursor moves to the left.
6. If you store data in RAM, it is not lost when you switch off.
7. If you use a faster modem, your phone bills are lower.
8. If there is a memory fault, the computer hangs.
9. If you press the arrow key, the cursor moves across the screen.
10. If you move a CD-ROM drive with the disk in place, you damage the drive.

**Task 8:** Complete these statements with a suitable action or consequence.

1. If you select the *Cancel* button on the Exit Windows dialog box, ....
2. ...., you will close down Windows programs.
3. If you input the wrong password, ....
4. ...., your printer will not print.
5. If your monitor is too bright, ....

**Key:**

1. If you select the *Cancel* button on the Exit Windows dialog box, the dialog box will close.
2. If you don't select *cancel*, you will close down Windows programs.
3. If you input the wrong password, you will not/won't get access to the network.
4. If there is a printer fault, your printer will not print.
5. If your monitor is too bright, it will damage your eyesight.

**E- Problem-solving**

**Task 9:** Study these rules for passwords. Then decide if the passwords which follow are good or bad. Explain your answers.

**Network passwords**

Usually you need a password to use a network. It is important to keep your password secret. The following rules make a password more difficult to guess.

**Passwords should:**

1. be at least 6 characters long
2. have a mixture of numbers and letters
3. have a mixture of capital and small letters
4. be easy to remember.

**Passwords should not:**

- 5. be a word from a dictionary
- 6. be a common name
- 7. include spaces, hyphens, dots, or symbols with a special meaning in computing, e.g. \$, \*, etc.

- 1) Colibarte   2) Tom3   3) 7Azab   4) 6Biscuit   5) Eztv3xq   6) Zuta.bal5   7) 4epilon   8) Zabidon5

**Key:**

	<b>Password</b>	<b>Good/Bad</b>	<b>Justification</b>
<b>1</b>	Colibarte	bad	no numbers
<b>2</b>	Tom3	bad	common name and too short
<b>3</b>	7Azab	bad	too short
<b>4</b>	6Biscuit	bad	dictionary word
<b>5</b>	Eztv3xq	bad	not easy to remember
<b>6</b>	Zuta.bal5	bad	includes a dot
<b>7</b>	4epilon	bad	no capitals
<b>8</b>	Zabidon5	good	correct length, fairly easy to remember

**F- Writing**

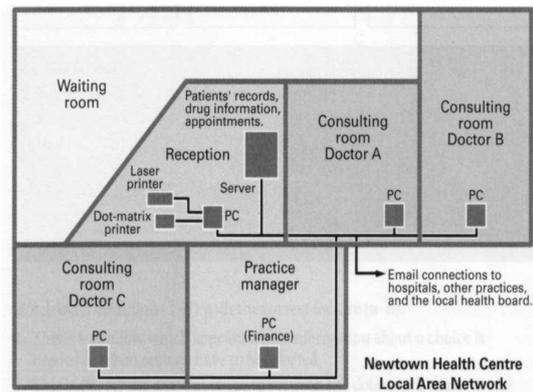
**Task 10:** Write a description of the LAN shown in Task 1. Use your answers to Task 1 to help you.

► Begin your description like this:

*This LAN connects receptionists, doctors, and the practice manager in a health centre. It also connects the centre with the local health board.*

► Help yourselves with the beginning of each of the remaining sentences in the description:

- 1. The hardware consists of ...
- 2. There is a PC in each ...
- 3. The printers and the servers ...
- 4. The receptionists use it for ...
- 5. The doctors ...
- 6. The practice manager ...



*This LAN connects receptionists, doctors, and the practice manager in a health centre. It also connects the centre with the local health board. The hardware consists of ..... There is a PC in each ..... The printers and the servers ..... The receptionists use it for ..... The doctors ..... The practice manager .....*

## G- Further reading

### Task 11 : Read the text and answer the questions

#### Networks

It is common to connect computers together to form a network. This is usually done by connecting cables to an electronic board called a *network interface card (NIC)* in each computer. Networks make communication between users possible and allow software and hardware to be shared. They also make it easier to maintain and control a large number of computers. A network that is connected over a small area – e. g. one building – is called a *local area network (LAN)*, and a network connected over a large area, e. g. different buildings, different cities, or even different countries, is known as a *wide area network (WAN)*. The most common network arrangement is known as a *client / server* system. The main computers that provide a service on the network are called *servers*, and the other computers that use the services are called *clients*.

The physical arrangement of the network is known as the network *topology*. Three common topologies are known as *star*, *ring*, and *bus*. A *star topology* has each computer individually connected to a central hub. The hub may be the main server computer, but is more often an electronic device that is used for connecting all the computers together. A *ring topology* has all the computers connected in a closed loop, and a *bus topology* has all the computers connected to a main cable that is terminated at each end. A *mesh topology*, where every computer is connected to every other computer, is not commonly used. Most networks use a mixture of topologies since each arrangement has its own advantages and disadvantages.

Passwords are commonly used to restrict access to a network and keep the system secure. Each user of a network is given an account name and password, which determine what services are made available to them. Passwords are supposed to prevent unauthorized users, or *hackers*, from breaking into the system, so they must not be easy for outsiders to guess. At the same time, they should not be too difficult for the user to remember. Ideally, they should have a minimum of six characters, and be composed of a mixture of capital and small letters, numbers, and symbols. Certain symbols have to be avoided because they have special meaning in computer systems. It is better not to use words in the dictionary or proper names, since some hackers use special computer programs which automatically try all the words and combinations of words in a computerized dictionary to try to discover or *crack* other users' passwords. It is also useful to change passwords frequently.

1. How can a network be formed?
2. What do networks allow users to do?
3. What is called a local area network? Give some examples?
4. What is the most common network arrangement?
5. What is called as the network topology?
6. What network topologies do you know? Describe each of them.

### Task 12 : Match each word from column A (1-22) with its partner from column B (a-v) to make a computing term definition. All of these terms are from this unit.

A	B
1) LAN (Local Area Network)	a) a storage device used for copying files to a storage medium to keep them save
2) WAN (Wide Area Network)	b) Physical layout of a network where all the computers are connected in a closed loop
3) topology	c) to connect a number of computers and peripheral devices together
4) server	d) an arrangement of computers in a network where every computer is connected to every other computer by a separate cable
5) Bus topology	e) a network computer used for accessing a service on a server
6) Mesh topology	f) a main computer that provides a service on a network
7) hacker	g) a piece of peripheral equipment which enables you to input information into a computer
8) Ring topology	h) Physical layout of a network where all the computers are attached to one main cable that is terminated at both ends

9) Star topology	i) someone who tries to break into computer systems, especially in order to get secret information.
10) Hub	j) to make a backup version of file
11) client	k) using a computer to gain unauthorized access to data in a system
12) peripheral(s)	l) external devices installed in a computer room
13) backup device	m) peripherals plugged into motherboard
14) integrated peripherals	n) a piece of equipment that is connected to the central processing unit of a computer system
15) hacking	o) an electronic device at the center of a star network topology
16) file backup	p) a network with several paths between any pair of units or nodes
17) input peripherals	q) The physical layout of a network
18) backup server	r) computers connected together over a large distance
19) machine-room peripherals	s) computers connected together over a small distance
20) mesh network	t) a piece of peripheral equipment used to bring data out of a system
21) output peripherals	u) a device for writing data very quickly on to magnetic tape, used typically for making backups of large amounts of data
22) network, v	v) physical layout of a network where all the computers are connected by separate cables to a central hub

## H- Words to retain

1. LAN (Local Area Network), n
2. WAN (Wide Area Network), n
3. topology, n
4. star topology, n
5. bus topology, n
6. mesh topology, n
7. ring topology, n
8. file, n
9. server, n
10. file server, n
11. peripheral(s), n (printers, scanners, CD-ROM drives, backup devices)
12. input peripherals, n
13. integrated peripherals, n

14. machine-room peripherals, n
15. output peripherals, n
16. backup server, n
17. backup system, n
18. file backup, n
19. streamer, n
20. hub, n
21. client, n
22. backup device, n
24. mesh(ed) network
25. intermediary device, n