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Faculty of Mathematics and Computer Science
Department of Computer Science



Module : English

Level : 1LMD

Semester : 1

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UNIT TWO :

Types of computer

Learning Objectives: Upon completion of this unit, students should :

1 be better at :

- reading for specific information,
- scanning a text in the form of a table,

2 be able to :

- make comparisons using adjectives,
- use common phrases for agreeing and disagreeing,

3 know and be able to :

- use these words : *mainframe, multimedia, notebook, laptop, handheld, PC, minicomputer, monitor, modem.*

A- PREREADING :

Task 1 (Warming up): Match these names to the different types of computer.

- 1- mainframe 2- laptop 3- notebook 4- handheld 5- PC 6- minicomputer



Key:

1	2	3	4	5	6
a	c	d	b	e	f

Task 2 : Who uses these types of computer? Where do they use them? Make a list.

Key: (other answers are possible)

- mainframe and minicomputer: large companies, banks, government departments, universities
- PC : offices for administration, home and leisure use
- laptop notebook and handheld: people who travel, businessmen, sales reps, reporters, politicians, etc.

B- READING - 1

Buying a computer

Task 3: Read part 1 of this conversation between a shop assistant and a customer. Tick (✓) the correct item.

1- The customer wants a computer for :

- writing graphics games Internet video

2- A multimedia computer provides :

- sound graphics animation telephone video

Conversation : Part 1

A : I'm thinking of buying a computer, and I need some advice.

B : OK. What do you want to use it for ?

A : For writing, maybe for games. I want it for the Internet.

B : For the Internet and games ... I recommend a multimedia computer.

A : What do you mean by a multimedia computer ?

B : Well, it's more powerful than a basic computer. It's got sound and a CD-ROM drive. You can use it for high-quality graphics, animation, and video.

Key:

1- The customer wants a computer for :

- writing graphics games Internet video

2- A multimedia computer provides :

- sound graphics animation telephone video

Task 4: *Read part 2 of the conversation. In column A, tick (✓) the hardware items named, and in column B, tick (✓) the items the assistant recommends*

Conversation : Part 2

A : What if I wanted ... I travel a lot, if I wanted something smaller, what's available ?

B : There are portable computers. A multimedia notebook is probably best.

A : Is a notebook the smallest kind you can get ?

B : No, you can get subnotebooks and even smaller handheld devices. They're mostly used as organizers, as a diary, a 'to do' list, and that kind of thing. But for writing and general use, a notebook is better.

A : OK, I think I'll go for a notebook. What other things do I need ?

B : A printer ... and for the Internet, make sure you have a modem.

A : A modem ?

B : Yes, it's a device for connecting your computer to a telephone line. You need it to connect to the Internet.

A	B	Device	A	B	Device
<input type="checkbox"/>	<input type="checkbox"/>	multimedia computer	<input type="checkbox"/>	<input type="checkbox"/>	handheld
<input type="checkbox"/>	<input type="checkbox"/>	multimedia notebook	<input type="checkbox"/>	<input type="checkbox"/>	printer
<input type="checkbox"/>	<input type="checkbox"/>	subnotebook	<input type="checkbox"/>	<input type="checkbox"/>	monitor
<input type="checkbox"/>	<input type="checkbox"/>	notebook	<input type="checkbox"/>	<input type="checkbox"/>	modem

Key:

A	B	Device	A	B	Device
<input checked="" type="checkbox"/>	<input type="checkbox"/>	multimedia computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	handheld
<input type="checkbox"/>	<input checked="" type="checkbox"/>	multimedia notebook	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	printer
<input type="checkbox"/>	<input checked="" type="checkbox"/>	subnotebook	<input type="checkbox"/>	<input type="checkbox"/>	monitor
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	notebook	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	modem

C- READING - 2

Types of computer

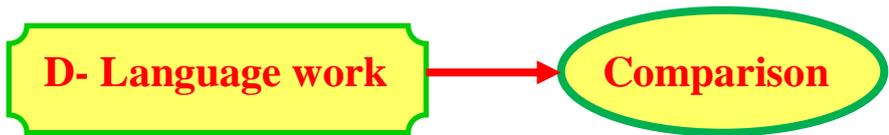
Task 5 : Study these details of different types of computer. Find the answers to these questions.
Which type of computer is:

- 1- the most common?
- 2- small enough for a pocket?
- 3- the most common portable?
- 4- used by many people at the same time?
- 5- used like mainframes?
- 6- also called a handheld computer?
- 7- the most powerful?
- 8- not suitable for a lot of typing?

Types of computer	Notes
Mainframes	<ul style="list-style-type: none"> ● Large, powerful, expensive. ● Multi-user systems – used by many people at the same time. ● Used for processing very large amounts of data. ● The most powerful mainframes are called <i>supercomputers</i>.
Minicomputers	<ul style="list-style-type: none"> ● Used like mainframes. ● Not as big, powerful, or expensive as mainframes. ● Less common now because microcomputers have improved.
Microcomputers or Personal computers (PCs)	<ul style="list-style-type: none"> ● The most common type of computer. ● Smaller, cheaper, and less powerful than mainframes and minicomputers.

Types of portable	Notes
Laptop	<ul style="list-style-type: none"> • About the size of a small typewriter. • Less common now because smaller and lighter portables are available.
Notebook	<ul style="list-style-type: none"> • About the size of a piece of writing paper. • The most common type of portable.
Subnotebook	<ul style="list-style-type: none"> • Not quite as big as notebooks. Can fit into a jacket pocket.
Handheld or Palmtop	<ul style="list-style-type: none"> • Small enough to fit into the palm of one hand. • Not easy to type with because of their size. • Often used as personal organizers.

- Key:**
- 1- the most common? ▶ microcomputers/PCs
 - 2- small enough for a pocket? ▶ subnotebook
 - 3- the most common portable? ▶ notebook
 - 4- used by many people at the same time? ▶ mainframes
 - 5- used like mainframes? ▶ minicomputers
 - 6- also called a handheld computer? ▶ palmtop
 - 7- the most powerful? ▶ mainframes/supercomputers
 - 8- not suitable for a lot of typing? ▶ handheld



1- Study this comparison of three types of computer.

	Mainframes	Minicomputers	Microcomputers
Size	+++	++	+
Power	+++	++	+
Cost	+++	++	+

2- We compare things using adjectives in two ways.

A- We can compare one type of computer with another.

- Minicomputers are **bigger than** microcomputers.
- Mainframes are **more expensive than** microcomputers.

For negative comparisons, we can say:

- Microcomputers are **not as big as** minicomputers.
- Microcomputers are **not as powerful as** mainframes.

B- We can compare mainframes to all other types of computer.

- Mainframes are **the biggest** computers.
- Mainframes are **the most powerful** computers.
- Mainframes are **the most expensive** computers.

3- With **short adjectives** (big, small, fast), we add **-er** and **-est** (faster, fastest).

4- With **longer adjectives** (powerful, expensive), we use **more/less** and **the most/the least** before the adjective (**more** powerful, **the most** powerful).

5- Remember these two exceptions:

Adjective	Comparative	Superlative
good	better	the best
bad	worse	the worst

Let's practise

Task 6: Choose the correct adjective. Then fill in the gaps with the correct form of the adjective.

- 1- Laptops are _____ than desktop computers, but _____ than notebooks. ▶ (*light/heavy*)
- 2- The mainframe is the _____ type of computer. A minicomputer is _____ than a microcomputer. ▶ (*large/small*)
- 3- Personal computers are _____ than mainframes but mainframes are _____ than personal computers at processing very large amounts of data. ▶ (*common/good*)
- 4- Minicomputers are _____ than mainframes but they are also _____. ▶ (*powerful/expensive*)
- 5- New computers are _____ and sometimes _____ than older machines. ▶ (*fast/cheap*)
- 6- Laptops are often _____ than PCs but they are not as 12_____. ▶ (*powerful/expensive*)

Key: 1) lighter - heavier 2) largest – smaller 3) more common – better 4) less powerful -less expensive
5) faster - cheaper 6) more expensive - powerful

E- Aids to communication

Here are some phrases to use when agreeing or disagreeing with someone.

- A:** (I think) The best computer for a ... is ...
B: I agree. / I think so too.
C: I disagree. / I don't think so.

F- Problem-solving

Task 7: *In pairs, decide what sort of computer is best for each of these users.*

- 1- John Wilmott is a salesperson and he spends a lot of time visiting customers. He wants a computer to carry with him so he can access data about his customers and record his sales.
- 2- Pat Nye is a personnel officer. She needs a computer to keep staff records and to keep a diary of appointments. She also needs a computer for writing letters.
- 3- The University of the North needs a computer to look after its accounts, its network, the records of all students and staff, and to help with scientific research.
- 4- The James family want a computer for entertainment, writing letters, the Internet, and for calculating tax.

Key: 1) notebook/subnotebook/handheld 2) PC 3) mainframe 4) multimedia PC with modem

G- Writing

Task 8 : *Put the words in brackets into the correct form to make an accurate description of sizes of computers.*

There are different types of computer. The (**large**)1..... and (**powerful**)2..... are mainframe computers. Minicomputers are (**small**)3..... than mainframes but are still very powerful. Microcomputers are small enough to sit on a desk. They are the (**common**)4..... type of computer. They are usually (**powerful**)5..... than minicomputers. Portable computers are (**small**)6..... than desktops. The (**large**)7..... portable is a laptop. (**Small**)8..... portables, about the size of a piece of writing paper, are called notebook computers. Subnotebooks are (**small**)9..... than notebooks. You can hold the (**small**)10..... computers in one hand. They are called handheld computers or palmtop computers.

Key: 1) largest 2) most powerful 3) smaller 4) most common 5) less powerful 6) smaller 7) largest 8) smaller 9) smaller 10) smallest

G- Further reading

Types of computer

A computer is a device that takes in data, processes it according to a program, and then outputs the processed data in some form. There is an increasing variety of computers of different sizes and designed for different purposes. One of the most important considerations when buying a computer is deciding how it is going to be used.

Computers can be divided into three broad categories: *mainframe computers (mainframes)*, *minicomputers (minis)*, and *microcomputers (micros)*. Mainframes are large, powerful, expensive computers that are operated by a team of professionals and are designed to be used by many people at the same time. The most powerful mainframes are sometimes called *supercomputers*. Minicomputers are really cut-down mainframes and are no longer very common.

The most common type of computer is the microcomputer. Microcomputers are sometimes called *personal computers*. The abbreviation PC was originally used for microcomputers produced by the IBM Corporation, but it is now sometimes used for other types of personal computer. However, microcomputers produced by Apple Computers Incorporated are not normally referred to as PC.

There is a wide variety of microcomputers but two common types are *desktop computers* and *portables*. Desktops are small enough to sit on an office desk and are relatively cheap. They are becoming cheaper and more powerful and are often used running *multimedia programs*, i.e. programs that contain some combination of text, sound, high quality graphics, animation and video. Multimedia computers need to have a sound facility and usually have a CD-ROM or DVD drive.

There is an increasing variety of portable micros that can be grouped according to their size. They can usually be powered from batteries and are useful in many different situations. However, as computer gets smaller, it becomes increasingly difficult to use them with a keyboard. One of the reasons that notebook portables are popular is because their screens and keyboards are just big enough to use comfortably for word processing. They can also be powered enough to be used for multimedia. The relative sizes of some of the most common types of computers are indicated below, although there are other types that are not mentioned here and new types are currently being developed.

Supercomputers	mainframes
Minicomputers	
Desktops	microcomputers (personal computers)

Portables	laptops notebooks subnotebooks handhelds palmtops
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Electronics can be added to desktop computers by plugging in expansion cards (electronic circuit boards that can be plugged into special sockets called expansion slots). It is also possible to build all the main parts of a computer into one electronic integrated circuit packaged as a single electronic chip (the common name for a microchip; an electronic integrated circuit in a small package) i.e. “the computer on a chip”. This enables computers to be built into other devices including household devices such as washing machines and fridges and to be incorporated into plastic cards i.e. smart cards, which are able to store information such as health records, drivers’ licences, bank balances, etc. Devices that include a computer circuit are commonly referred to as smart devices. A multimedia computer can process different forms of data including text, graphics, audio (sound), animation and video. This enables computer systems to be used for a combination of education and entertainment, sometimes referred to as edutainment.

A- Answer the questions.

- 1- What kind of a device is a computer?
- 2- What three categories can be computers divided into?
- 3- What is the most common type of a computer?
- 4- How many categories can microcomputers be divided into?
- 5- In what way are portables can be grouped?
- 6- What is the most important consideration when buying a computer?

B- Match each word from column A (1-36) with its partner from column B (a-jj) to make a computing term definition. All of these terms are from units 1+2.

A	B
1- barcode n, v	a) to copy using a scanner
2- barcode reader	b) the main output device used to display the output from a computer on a screen
3- memory	c) acronym for read-only memory
4- minicomputer	d) The most powerful type of mainframe computer
5- a palmtop	e) a sequence of vertical parallel lines used to give items a unique identification number/ to mark with a barcode
6- ROM	f) a computer that is slightly less powerful and a little smaller than a mainframe
7- mainframe	g) a portable computer that is small enough to be held in the palm of one hand
8- magnetic ink character reader	h) the part of a computer system that is used for storing programs and data

9- program	i) an optical input device that uses the reflection of a light beam to read barcode labels
10- hardware	j) the largest and most powerful type of computer. It is operated by a team of professionals
11- monitor	k) a device used for recognition magnetic ink characters or characters written with magnetic ink
12 - subnotebook	l) A set of instructions written in a computer language that control the behavior of a computer
13 - multimedia	m) the physical components of a computer system
14- modem	n) a portable computer that is a little smaller than a notebook computer. It is small enough to fit inside a jacket pocket
15- handheld	o) drawings that have moving images
16- software	p) an electronic device for converting signals to enable a computer to be connected to an ordinary telephone line. The term comes from an abbreviation of MODULATOR/DEMULATOR
17- PC	q) The main part of a PC. It usually includes the electronics, power supply, hard disk drive, floppy disk drive, and a small loudspeaker. It may also include a CD-ROM drive and one or two other devices, but also has connectors to allow external devices to be attached.
18- megabyte	r) a picture, drawing, animation or other type of image
19- notebook	s) A computer suitable for running multimedia programs. It usually has a sound card and a CD-ROM drive
20- laptop	t) the programs and data used in a computer
21- animation	u) A small electronic circuit board containing memory chips. It is designed to be plugged into memory slots
22- CD-ROM disk	v) a portable computer that is about the same size as a piece of writing paper
23- CD-ROM drive	w) a personal computer, smaller and less powerful than a mainframe or a minicomputer
24- laser	x) a unit of capacity equal to 2^{20} bytes, i.e. 1-24 kilobytes
25- multimedia computer	y) the largest type of portable computer
26- supercomputer	z) the combination of text, graphics, animation, sound and video
27- system unit	aa) a computer that is small and light enough to be carried from place to place. It can usually be powered from batteries.
28- scan	bb) a small portable computer that can be held in one hand
29- graphic	cc) A storage device for reading CD-ROM disks
30- SIMM (single-in-line memory module)	dd) abbreviation for an IBM type of a personal computer, although sometimes used for other types of personal computer
31- microcomputer	ee) A read-only storage device in the form of a disk that is read using laser light
32- multiuser	ff) high frequency light used in optical devices
33- portable computer	gg) capable of being used by many people at the same time
34- edutainment	hh) a plastic card containing a processor and memory chip. It can be used to store large amounts of confidential data.
35- smart device	ii) a system that has both educational and entertainment values
36- smart card	jj) a device that contains an embedded processor and memory

KEY :

Column A	Column B
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2- barcode reader	i) an optical input device that uses the reflection of a light beam to read barcode labels
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34- edutainment	ii) a system that has both educational and entertainment values
35- smart device	jj) a device that contains an embedded processor and memory
36- smart card	hh) a plastic card containing a processor and memory chip. It can be used to store large amounts of confidential data.

H- Words to know

1- mainframe, n 2- multimedia, n 3- notebook, n 4- laptop, n 5- handheld, n
6- PC (personal computer), n 7- minicomputer, n 8- monitor, n 9- modem, n
10- subnotebook, n 11- palmtop, n 12- SIMM (single-in-line memory module/a small electronic
circuit board containing memory chips) 13- microcomputer 14- multiuser 15- portable
computer 16- edutainment, n 17- smart device, n 18- smart card, n