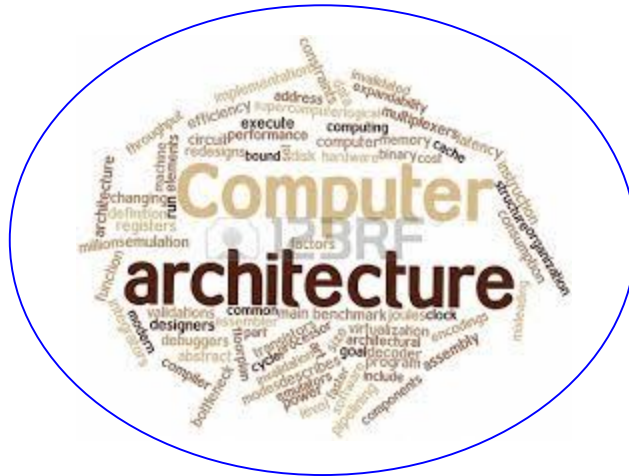# UNIT 2
Computer Architecture

Picture 2.1

Learning Outcomes:

By the end of the lesson, the students are expected to be able to use appropriate English to:

- read a computer advertisement
- describe functions of computer
- compare and contrast computers using comparative and superlatives

2.1. Reading a computer advertisement

Exercise 1: Match these names to the different types of computer.
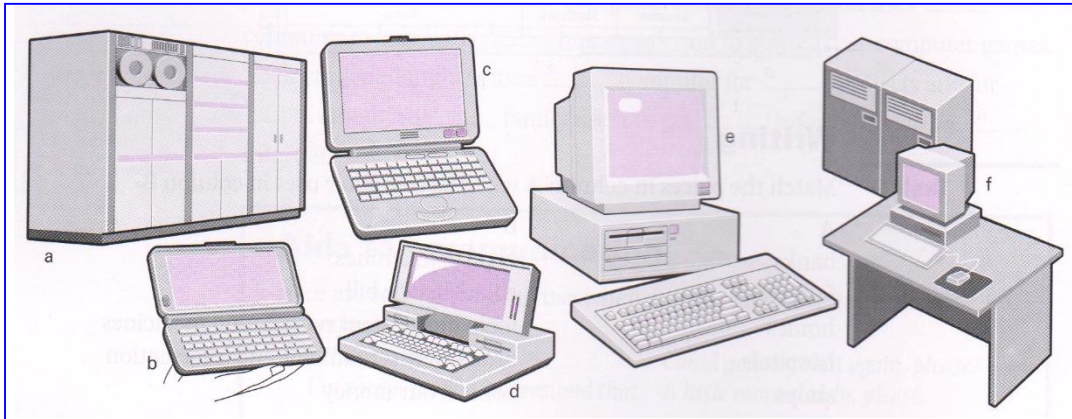
Picture 2.2

1. mainframe	3. notebook	5. PC
2. laptop	4. handled	6. minicomputer

Exercise 2: Listen to Part 1 of the conversation between a shop assistant and a customer.

Tick the correct answers to the questions below.

1. The customer wants a computer for......

   ☐ writing   ☐ internet

   ☐ graphics   ☐ video

   ☐ games

2. A multimedia computer provides......

   ☐ sound   ☐ telephone

   ☐ graphics   ☐ video

   ☐ games

Exercise 3: Listen to Part 2 of the conversation. In column A, tick hardware items named.

A	B	Device	A	B	Device
☐	☐	multimedia computer	☐	☐	handheld
☐	☐	multimedia notebook	☐	☐	printer
☐	☐	subnotebook	☐	☐	monitor
☐	☐	laptop	☐	☐	Modem

Exercise 4: Listen to the conversation again. In column B, tick the items the assistant recommends.

Exercise 5: Study the text entitled "How to Read a Computer Ad" and then answer the following questions.

1. What is the memory size of PC?
2. What storage devices are supplied?
3. What size is the display screen?
4. How fast is the processor?
5. What is the capacity of the hard drive?
6. Which operating system does it use?
7. What multimedia features does the computer have?

HOW TO READ A COMPUTER AD.

1 Intel Pentium 4 processor (3GHz, 800MHz FSB)
2 Mini-tower chassis
3 1GB dual channel DDR2 SDRAM
4 200GB Serial ATA hard drive (7200 r.p.m)
5 128MB PCI-Express video card
6 Integrated audio
7 48X CD-RW drive
8 19" TFT flat panel XGA (1024 x 768) monitor
9 Microsoft Windows XP Professional

Picture 2.3

1 The main processing chip called a 'pentium 4' that was designed and manufactured by the intel Corporation. It operates at a clock speed of three gigahertz and has a front-side bus that operates at a speed of eight hundred megahertz.
2 A small, tall and narrow style of case containing the computer system.
3 Synchronous dynamic random acces memory with a capacity of one gigabyte. It is a high bandwidth, double data rate memory.
4 A hard drive with a capacity of two hundred gigabytes that uses a type of connection interface known as Serial ATA i.e. it has a serial data connection rather than the original parallel connection. It rotates at a speed of seven thousand, two hundred revolutions per minute.
5 Electronics for driving the graphics output that has a memory capacity of one hundred and twenty-eight megabytes and uses a type of connection interface known as PCI-Express.
6 Electronics for controlling the sound output that is built into the main electronics of the computer.
7 A compact disk read/write disk drive that operates at forty-eight times the speed of the original CD drives.
8 A nineteen inch, flat display screen made from thin film transistors with a resolution of 1024 by 768.
9 The operating system that is used to control the system.

Oxford English for Information Technology (2011: 11)

2.2. Describing functions of computer

We can describe the function of an item in a number of ways. Study these examples.

Using the present simple
1. ROM _holds_ instruction wich are needed to start up the computer.

Used to-**infinitive,** _Used for_ + -**ing form**
2. ROM is _used_ to _hold_ instructions which are needed to start up the computer.

3. ROM is _used for holding_ instructions which are needed to start up the computer.

Emphasising the function
4. _The function of ROM is_ to hold instruction which are needed to start up the computer.

Exercise 6: Match each item with its functions. Then describe the functions in three ways as the examples on the table above.

Items	Functions
1. RAM 2. processor 3. mouse 4. clock 5. flash memory key 6. monitor 7. keyboard 8. cache 9. DVD-ROM drive 10. ROM	A. controls the cursor B. inputs data through keys like a typewriter C. displays the output from a computer on a screen D. reads DVD-ROMs E. reads and writes to electronic chips on a card F. holds instructions which are needed to start up the computer G. holds data read or written to it by the processor H. provides extremely fast access for sections of a program and its data I. controls the timing of signals in the computer J. controls all the operations in a computer

Exercise 7: With your partner, describe the functions of these items using the forms you have learned before.

1. Scanner
2. printer
3. CPU
4. PDA
5. hard disk driver
6. ports
7. mainframe computer
8. barcodes
9. swipe cards
10. main memory

2.3. Comparing and contrasting computer

Exercise 8: Study these details of different types of computer. Find answers to the questions. Which 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 typing?

Types of Computer	Notes
Mainframes	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 *supercomputers.*
Minicomputers	Used like mainframes. Not as big, powerful, or expensive as mainframes. Less common now because microcomputers have improved.
Microcomputers or Personal computers (PCs)	The most common type of computer. Smaller, cheaper, and less powerful than mainframes and minicomputers.

Types of Portable	Notes
Laptop	About the size of small typewriter. Less common now because smaller and lighter portables are available.
Notebook	About the size of a piece of writing paper. The most common type of portable.
Subnotebook	Not quite as big as notebooks. Can fit into a jacket pocket.
Handheld or Palmtop	Small enough to fit into the palm of one hand. Not easy to type with because of their size. Specialized handheld computer known as PDAs are used as personal organizers.

Exercise 9: Study this comparison of three types of computer.

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

We compare things using adjectives in two ways.

1. 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.*

2. 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.*

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

   With longer adjectives (*powerful, expensive*), we use *more/less* and the *most/*

the least before the adjectives (*more powerful, the most powerful*).

Remember some exceptions:

good – better – the best   *bad – worse – the worst*

Exercise 10: Choose the correct adjectives. Then fill in the gaps with the correct form of the adjectives.

light/heavy	Laptops are **1**_____ than desktop computers, but **2**_____ than notebooks.
large/small	The mainframes is the **3**_____ type of computer. A minicomputer is **4**_____ than a microcomputer.
common/good	Personal computer are **5**_____ than mainframes but mainframes are **6**_____ than personal computers at processing very large amounts of data.
powerful/expensive	Minicomputers are **7**_____ than mainframes but they are also **8**_____
fast/cheap	New computers are **9**_____ and sometimes **10**_____ than older machines.
powerful/expensive	Laptops are often **11**_____ than PCs but they are not as **12**_____

Exercise 11: Put the words in brackets into the correct form.

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 microcomputers.

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.

Exercise 12: In pairs, decide what type of computer is best from each of these users.

1. Wyatt 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. Juliet 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 Blue Sky needs a computer to look after its accounts, its network, the records of all the students and staff, and to help scientific research.
4. The Johnson family want a computer for entertainment, writing letters, the internet, and for calculating tax.

Exercise 13: In pairs, discuss who or what you think is:

1. The most difficult game you've ever played.
2. The most exciting film you've ever seen.
3. The funniest program on TV.
4. The most dangerous computer virus.
5. The best blogger or webmaster on the web.
6. The most popular web browser.

Exercise 14: Preparation is essential for an effective presentation. Here are some phrases that can help you delivering a better presentation.

<div align="center">

Useful Phrases for Presentation

</div>

When giving a presentation, certain keywords are used to signpost the different stages. It's a good idea to memories them and practice them so that they come to your mind easily during a presentation.

Useful Phrases for Presentation	
Starting the presentation	**Explaining the purpose**
• Good morning/good afternoon ladies and gentlemen. • The subject of my presentation today is … • What I'm going to talk about today is …	• The purpose of this presentation is … • My objective is to … • My main aim today is to …
Stating the main points	**Introducing the first point**
• The main points I will be talking about today are firstly …, secondly …., next …., finally, we're going to look at…	• Let's start/begin with … • I'd like to start by ….
Showing visuals	**Moving on to the next point**
• I'd like to illustrate this by showing you …	• Now let's move on to …
Referring to an earlier point	**Summarizing**
• Let me go back to what I said earlier about **…**	• I'd like to recap the main points of my presentation. First I covered …, then we talked about … and finally we looked at … • I'd now like to sum up the main points, which were …
Conclusion Inviting	**Questions**
• I'm going to conclude by … saying that / inviting you to / quoting … • In conclusion, let me leave you with this thought / invite you to …	• Finally, I'll be happy to answer your questions. • Now I'd like to invite any questions you might have. • Do you have any questions?

Exercise 15: Now put the following phrases in the correct groups. Add some more phrases that you know.

- In conclusion, let me leave you with this thought / invite you to …
- Good morning/good afternoon ladies and gentlemen.
- The main points I will be talking about today are firstly …, secondly …., next …., finally, we're going to look at…
- I'm going to conclude by … saying that / inviting you to / quoting …
- Now let's move on to …
- My objective is to …
- Finally, I'll be happy to answer your questions.
- Now I'd like to invite any questions you might have.
- What I'm going to talk about today is …
- The subject of my presentation today is …
- I'd like to illustrate this by showing you …
- I'd like to recap the main points of my presentation. First I covered …, then we talked about … and finally we looked at …

Useful Phrases for Presentation	
Starting the presentation	**Explaining the purpose**
_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stating the main points	**Introducing the first point**
_____ _____ _____ _____ _____	_____ _____ _____ _____ _____

Showing visuals	Moving on to the next point
_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Referring to an earlier point	**Summarizing**
_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Conclusion	**Inviting Questions**
_____ _____ _____ _____ _____	_____ _____ _____ _____ _____

Exercise 16: In pairs, find two different advertisements of PCs/laptops/any gadgets and write some comparisons (at least 10 sentences) based on their specifications and present it in the class. Use the phrases that you have learned today.

Look at the example below.

Example of Writing a Comparison between Two Things

	Samsung Galaxy S3	iPhone 5
Size	5.39 x 2.80 x 0.34 inch	4.87 x 2.31 x 0.30 inch
Weight	133g	112g
Processor	• Exynos 4412/Snapdragon S4 • Quad-core • 1400 MHz	• Apple A6 • Dual-core • 1000 MHz
RAM	1GB/2GB	1GB
Screen size and type	• 4.80 inches • HD Super AMOLED	• 4 inches • IPS LCD
Resolution	720 x 1280 pixels	640 x 1136 pixels
DPI	306 ppi	326 ppi
Storage	16/32/64GB	16/32/64GB
microSD	Yes, up to 64GB	No
Battery	• 2100mAh • 11. 4h talk time • Removable	• 1400maH • 8h talk time • Non-removable
Rear Camera	• 8MP • f2.6 • back-illuminated sensor • autofocus • 1080p HD video	• 8MP • f2.4 • back-illuminated sensor • autofocus • 1080p HD video
Front Camera	1.9MP	1.2MP 720p
NFC	Yes	No
Connectivity	LTE, HSDPA+, Wi-Fi, BT4	LTE, Wi-Fi, BT 4
Availability	Summer 2012, worldwide	21 September, in select countries
Price	Varies by market	$199/$299/$399
OS	Android 4.0.4 ICS with Touchwiz 5, JB coming soon	iOS 6
Others	• Wireless charging (with separate backplate) • MicroUSB plug • ShareShot • SmartStay	• Passbook • Apple Maps • Siri • Facetime over cellular

1. Samsung Galaxy S3's size is <u>bigger</u> than iPhone 5's.
2. The rear camera of Samsung Galaxy S3 and iPhone 5 has <u>the same quality of pictures</u>.
3. The price of Samsung Galaxy S3 is <u>more flexible than</u> that (the price) of iPhone 5.
4. …..
5. …..