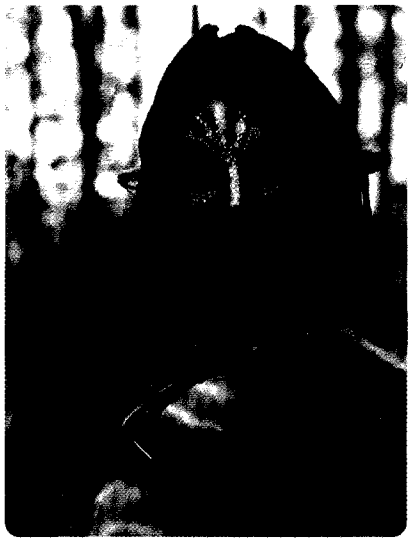


2. Reading | Answer questions

Read the text about the definition of computer and then answer the questions.

Is Facebook the Avatar of my computer?

Without the computer, Facebook, Youtube, Twitter and other social networks wouldn't exist. (See Module 3)
Personal computers are powerful creations that often seem to have a life of their own. They respond to a seemingly magical incantation typed at a C:›prompt or to a wave of a mouse by performing tasks we couldn't imagine doing ourselves without some sort of preternatural help. But what is a computer? It is an electronic device that takes data in one form, processes it, and transforms it into information that is more useful than the original data. And this being ICT, you have to make sure you know what" data" is and what a computer does with it.
We can say that data is "information" that has no meaning. Suppose someone walks up to you and gives you a piece of paper with 123987 written on it. The number could mean absolutely anything. They might be telling you their birthday, or how much money you owe them, or they might be giving you their phone number.
Data only becomes information when you know the context of the data. In conclusion: Information=Data+Meaning.
Computers are machines that process data but don't understand the data they process. If you get a computer to process data that is incorrect, the results will be meaningless.
Computers only do what they are told to do. We often use the saying "garbage in, garbage out" (Gigo for short) to say that if incorrect data is put into a computer, the computer will not realise that it is incorrect so it will produce a strange answer. Some people call this "computer error"; they are wrong: it is a human error. Computers hardly ever make mistakes. They just do what they are programmed to do.

Answer the following questions:

1. What is a computer?
2. What is "data"?
3. When can we speak of"information"?
4. Can we say that computers are "stupid"? Why? Why not?
5. Do computers make mistakes?
6. Who makes mistakes?
7. Explain the saying "garbage in, garbage out".
8. Can computers be compared with robots? Why? Why not?

data › data is processed › information

What do you understand for "processing data"?
What we mean by "processing" is doing something to the data.
Processing includes
1. doing calculations;
2. sorting things, objects, people etc;
3. searching and selecting;
4. storing and/or rearranging data;
5. Drawing.

6. Activity | Match

Match the first half of a sentence in column A with a second half in column B.

A	B
1. The mouse is used	a. the most widely used method of input
2. The printer is	b. storage device that rotates, reads from and writes to disks
3. The keyboard is	c. an output device
4. The disk drive is	d. to move the cursor around the screen
5. The editing keys are used	e. the screen which is also called the VDU
6. The monitor is	f. to make changes to a document

Solution 1.... 2.... 3.... 4.... 5.... 6....

7. Writing | Complete

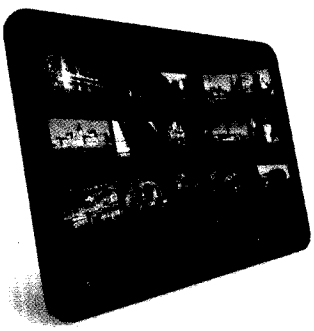
Complete the following sentences with words given in scrambled order.

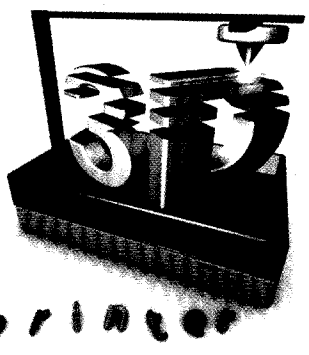
output | screen | storage | system | keys | VDU | device

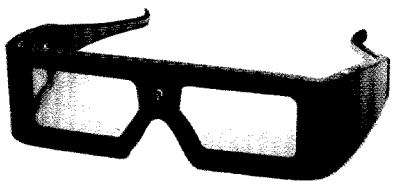
1. What is a monitor? It is the (1) ..... on which data is displayed.
2. A monitor is also called (2) .....
3. A printer is a common output device that you use for printing the (3) ..... of a computer on paper.
4. A (4) ..... for key data entry is called keyboard.
5. The set of (5) ..... used for moving around the screen and making changes to a document are called editing keys.
6. A disk drive is a (6)..... device that rotates, reads from and writes to disks.
7. Hardware and software are the main parts of the (7)..... that work together.

8. Activity | Discuss

Have you ever seen the pictures below? Speak about them discussing their pros and cons with your partner and with the help of your teacher.







9. Reading | Oral description

Read the passage about hardware and software and then describe the components of a computer system and their purposes. You may start like this:

"A computer system consists of five basic components:
the ..... is used to ....." etc.

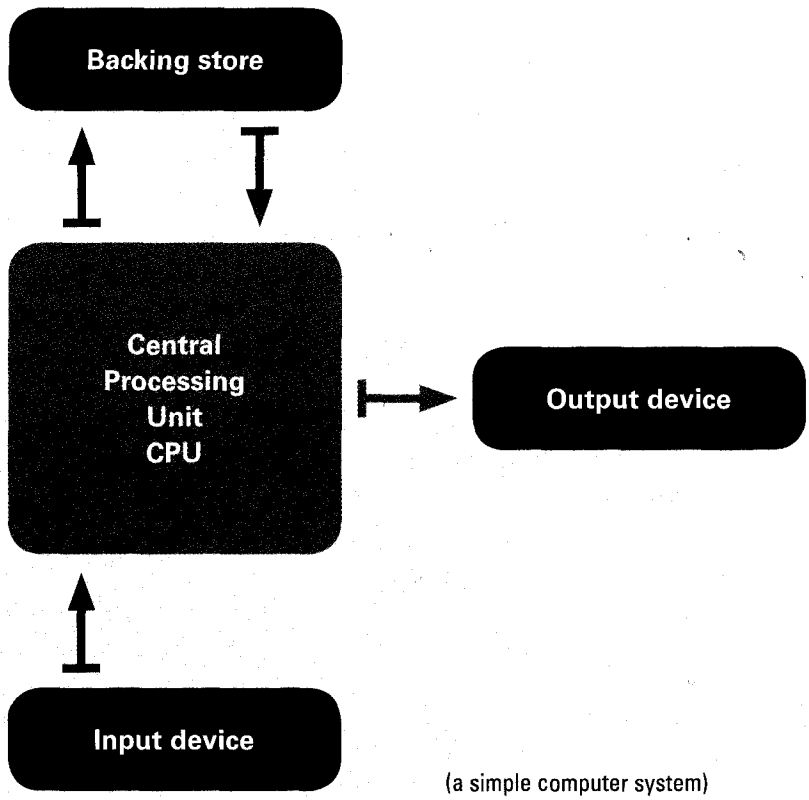
Some technical terms: Hardware-and Software

All computers consist of five basic components. Four of these make up the computer's tangible equipment and are known as **hardware**. We can say that hardware is the term used for the tangible elements or devices that make up a computer system. Basically these devices may be split into:

- input devices, which are used to get the data into the computer;
- central processing unit or CPU, which has several functions;
- the (backing) storage (memory), which consists of the disk drives used to store data;
- the output devices, which include such units as printers and VDUs, which are used to provide output in the form of printouts, screen displays etc.

These hardware components, however, cannot perform any function without the fifth component, **software**. Software is more abstract in nature; it is a set of instructions that directs the hardware to perform a specific task. Software is the word used for the actual programs that allow the hardware to do a useful job. Software is the general name given to all the programs that can be run on a computer hardware. There are two main categories of software: operating systems and applications software.

Without software, hardware is useless. The arrangement of these devices in a typical computer system is shown in the following figure:



(a simple computer system)

10. Reading | Put in order

While reading the information about "a system", put the paragraphs in order.

	A SYSTEM
...	A computer is a system, containing a number of subsystem. Computers in use are always part of large systems
1	A computer is often referred to as a computer system
...	Those of you who play team sports will find the idea of a system easy to understand in these terms – a well-trained team is a system, a poorly trained team is not
...	Essentially, a system is a collection of parts working together towards some common goal
...	Just as goals have sub-goals, so do systems have subsystems
...	A subsystem is a part of a system which accomplishes a part of the goals of the system
...	For example the braking system of a motor car is a subsystem of the car

11. Activity | Put in order

Put in order the letters and write the correct words.

1. yestsm .....
2. liclncetoo .....
3. aglo .....
4. edai .....
5. atme .....
6. bsemustsys .....
7. rpta .....
8. agibknr .....
9. oacmortr (two words) .....
10. garelr .....

12. Writing | Find synonyms

Find synonyms in the previous information about a system that mean.

1. A set of similar things that you keep together .....
2. Something that you hope to achieve in the future .....
3. To prepare for a sport event .....
4. To succeed in doing something .....
5. To make a vehicle go more slowly or stop .....

13. Writing | Summary

Write a short summary of the information about "a system" following these guidelines.

a. definition of a system
b. example of the idea of a system
c. definition of a subsystem
d. example of a subsystem

Begin like this:

A system is very often mentioned in connection with computers...

10. Reading | Put in order

While reading the information about "a system", put the paragraphs in order.

	A SYSTEM
...	A computer is a system, containing a number of subsystem. Computers in use are always part of large systems
1	A computer is often referred to as a computer system
...	Those of you who play team sports will find the idea of a system easy to understand in these terms – a well-trained team is a system, a poorly trained team is not
...	Essentially, a system is a collection of parts working together towards some common goal
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c. definition of a subsystem
d. example of a subsystem

Begin like this:

A system is very often mentioned in connection with computers...

14. Reading | Answer questions

Read the passage about "computer systems" and then answer the questions below.

Computer systems

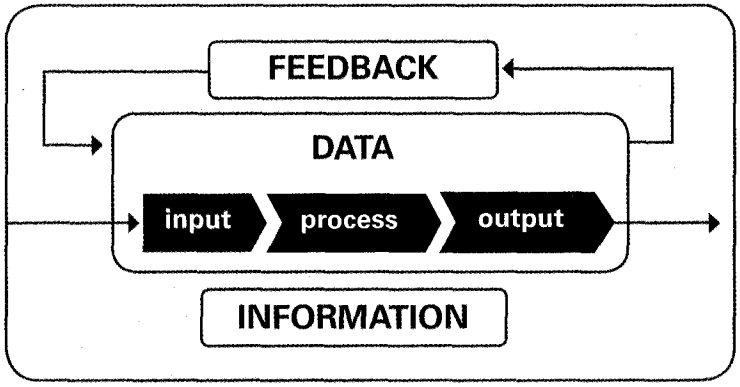
A computer system is an integrated system of hardware and software that enables data to be input, then processed and the results communicated to the user.
What happens at each stage can be summarized like this:
a. Data is entered at the input stage. At this point, information is converted into data before it is entered into the computer. This might mean having to convert information into a code. For example the date "26th September 1964" might be converted into 260964. In Microsoft's Excel program this date is given the code 23646, this is because it is 23646 days from January 1st, 1900. The data that has been entered should be validated (checked) to make sure it is of the right type. (e.g. a percentage should be between 0 and 100). The data should also be verified – in other words it should be correct. (e.g. if the examination mark was 67% then 67 should have been entered.)
b. The computer then processes the data. Processing involves turning the input data into something else. For example a set of examination results could be put into a computer which then calculates the average score. Processing is carried out using the computer's Central Processing Unit (CPU).
c. The results are then shown at the output stage. Output is when the computer communicates the results of the data processing to the user. The two most common ways are a screen display and printed paper. At this point the data becomes information again. The information obtained at the output stage might then be used as feedback to input more data. This turns the system into a cycle.

Answer the following questions:

1. What are the three stages in the processing of data called?
2. What happens when data is entered at the input stage?
3. Why should data be verified?
4. What does "processing" mean?
5. What happen at the output stage?

15. Speaking | Oral report

Study the diagram, memorise it and explain what happens at each stage.



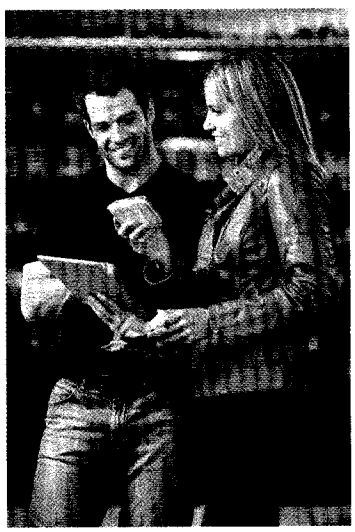
2. Vocabulary | Useful words

When we speak of computers we use some special language. See what words are familiar to you. Match the words with the appropriate definition.

WORDS	DEFINITIONS
1. Microprocessor	a. A special type of memory that can be erased and reprogrammed in blocks instead of one byte at a time.
2. Storage	b. The mechanism that reads and writes data on a hard disk.
3. Display	c. A type of display screen that has a touch-sensitive transparent panel covering the screen. Instead of using a mouse or light pen, you can use your finger to point directly to objects on the screen.
4. Memory	d. An area that holds materials going to /coming from the computer.
5. Hard drive	e. A computer or device on a network that manages network resources.
6. Battery-operated	f. A silicon chip that contains a CPU
7. Flash memory	g. Short for monitor.
8. Touch screen	h. A group of two or more computer systems linked together.
9. 3D graphics	i. Cellular (mobile) phone.
10. Network	j. The section of the computer system that temporarily holds data and program instructions.
11. Server	k. Working thanks to a battery.
12. Cell phone	l. The field of computer graphics concerned with generating and displaying three-dimensional objects in a two-dimensional space (e.g., the display screen).

3. Reading | Activities

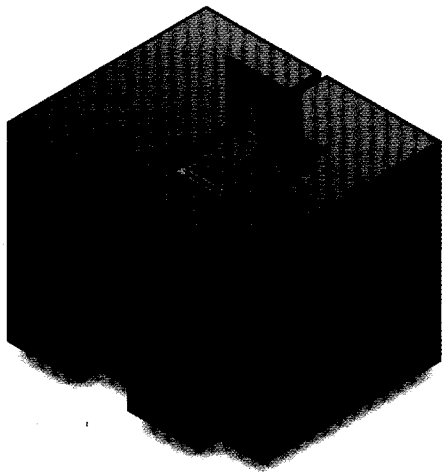
Read about the various types of computer and do the activities at the end of the text.



Classification of computer

This is the broadly accepted classification of computer. Computers are classified into four categories:

1. Mainframe Computers
2. Mini Computers
3. Micro Computers
4. Super Computers

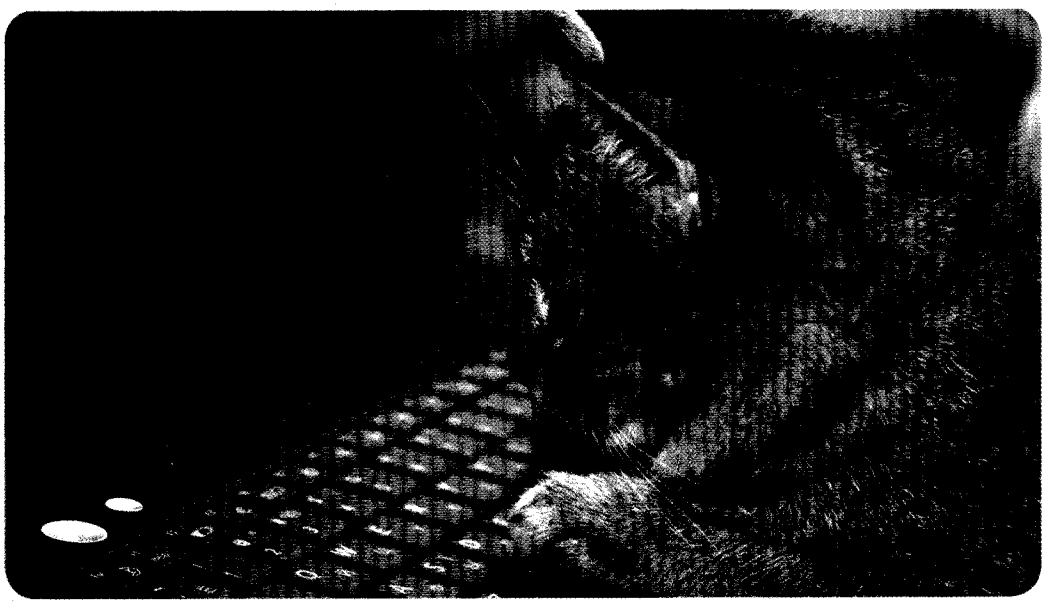


1. Mainframe Computers.

- They are big computer systems sensitive to temperature, humidity, dust etc.
- Qualified & trained operators are required to operate them.
- They have wide range of peripherals attached.
- They have large storage capacity.
- They can use wide variety of software.
- They are not user friendly.
- They can be used for more mathematical calculations.
- They are installed in large commercial places or government organizations.

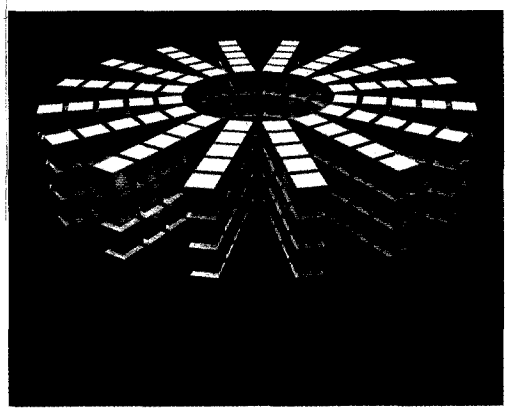
2. Mini Computers.

- They have less memory & storage capacity than mainframe computers.
- They offer limited range of peripherals.
- Limited range of software can be used.
- The end users can directly operate it.
- They are not very sensitive to the external environment and hence are more generalised.
- They are used for data processing.



3. Micro Computers (or Personal Computers).

- They are cheap and user friendly.
- They are having limited peripherals attached to them.
- This type of computers can use wide range of software.
- They are used as desktops either in offices or even homes.
- Their operation can be easily learnt by anyone having logical aptitude.
- Children enjoy playing games & watching movies in these computers.
- Most popular micro computer's processing chip manufacturing company is Intel.



4. Super Computers.

- They are huge computers installed in space centres, nuclear power stations etc.
- They are used for performing complex mathematical calculations.
- Only scientists and mathematicians can operate them.
- They are having huge memories & tremendous processing speed.
- They are used for whether forecasting, animation graphics etc.

a. Answer the questions.

1. How are computers classified on the basis of their size, capacity and speed?
2. Write a brief note on mainframe computers.
3. What do you know about minicomputers?
4. Describe the main features and characteristics of microcomputers.
5. Write a brief note on supercomputers.
6. Distinguish between mainframe, mini, micro and supercomputers.
7. Mention the places where micro computers are used.

b. Tick as appropriate.

STATEMENTS	MAINFRAME	MINI	MICRO	SUPER
1. They brought revolution in the history of computers.				
2. They are used for data processing				
3. Their range of peripherals is not very much extended.				
4. You can find them in a space centre.				
5. Qualified operators can operate them.				
6. Scientists can operate them.				
7. You can find them in offices.				
8. Their weak point can be dust and humidity.				