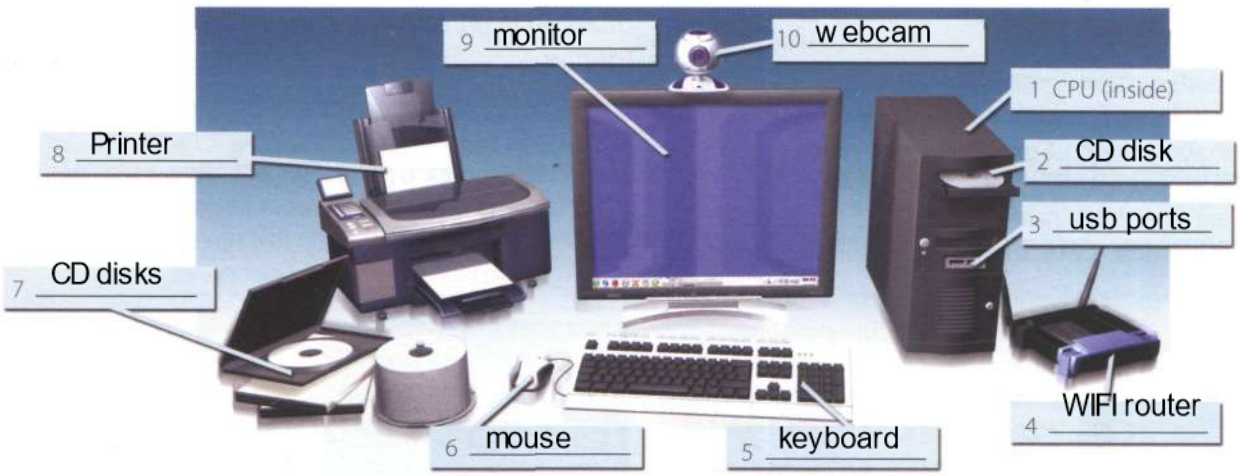
Unit 2 Computer essentials

1 Computer hardware

A **In pairs, discuss these questions.**

1 Have you got a computer at home, school or work? What kind is it?
2 How often do you use it? What do you use it for?
3 What are the main components and features of your computer system?

B **In pairs, label the elements of this computer system.**



C **Read these advertising slogans and say which computer element each pair refers to.**

1
a Point and click here for power
b Obeys every impulse as if it were an extension of your hand

2
a Displays your ideas with perfect brilliance
b See the difference – sharp images and a fantastic range of colours

3
a It's quiet and fast
b *... it's easy to back up your data before it's too late*

4
a Power and speed on the inside
b Let your computer's brain do the work

5
a ... a big impact on the production of text and graphics
b Just what you need: a laser powerhouse

D **Find words in the slogans with the following meanings.**

1 to press the mouse button click
2 clear; easy to see brilliance
3 to make an extra copy of something print
4 selection inside
5 shows graphics

2 What is a computer?

A Read the text and then explain Fig. 1 in your own words.

What is a computer?

A computer is an electronic machine which can accept data in a certain form, process the data, and give the results of the processing in a specified format as information.

First, data is fed into the computer's memory. Then, when the program is run, the computer performs a set of instructions and processes the data. Finally, we can see the results (the output) on the screen or in printed form (see Fig. 1 below).

A computer system consists of two parts: hardware and software. **Hardware** is any electronic or mechanical part you can see or touch. **Software** is a set of instructions, called a program, which tells the computer what to do. There are three basic hardware sections: the **central processing unit** (**CPU**), **main memory** and **peripherals**.

Perhaps the most influential component is the central processing unit. Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the 'brain' of the computer. The main memory (a collection of RAM chips) holds the instructions and data which are being processed by the CPU. Peripherals are the physical units attached to the computer. They include storage devices and input/output devices.

Storage devices (hard drives, DVD drives or flash drives) provide a permanent storage of both data and programs. **Disk drives** are used to read and write data on disks. **Input devices** enable data to go into the computer's memory. The most common input devices are the **mouse** and the **keyboard**. **Output devices** enable us to extract the finished product from the system. For example, the computer shows the output on the **monitor** or prints the results onto paper by means of a **printer**.

On the rear panel of the computer there are several **ports** into which we can plug a wide range of peripherals – a modem, a digital camera, a scanner, etc. They allow communication between the computer and the devices. Modern desktop PCs have USB ports and memory card readers on the front panel.

A USB port

A USB connector

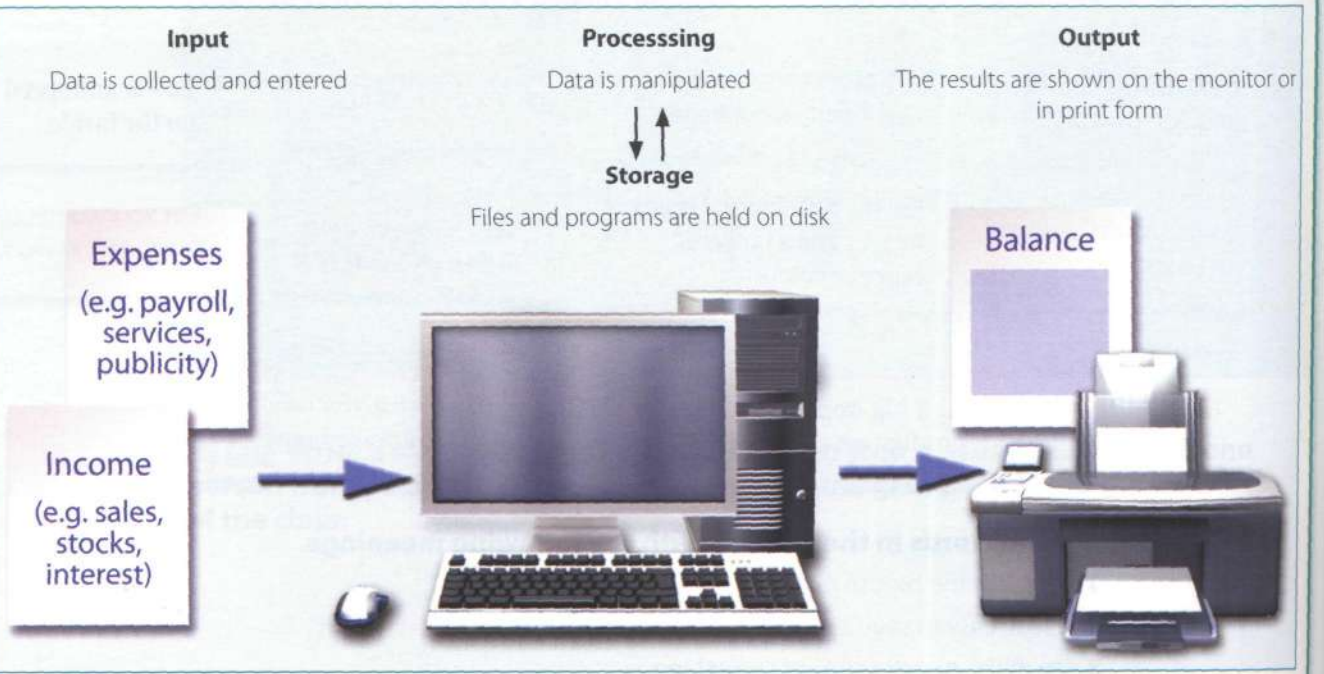


Fig. 1

B Match these words from the text (1–9) with the correct meanings (a–i).

1	software	a	the brain of the computer
2	peripherals	b	physical parts that make up a computer system
3	main memory	c	programs which can be used on a particular computer system
4	hard drive (also known as hard disk)	d	the information which is presented to the computer
5	hardware	e	results produced by a computer
6	input	f	input devices attached to the CPU
7	ports	g	section that holds programs and data while they are executed or processed
8	output	h	magnetic device used to store information
9	central processing unit (CPU)	i	sockets into which an external device may be connected

3 Different types of computer

A Listen to an extract from an ICT class. As you listen, label the pictures (a–e) with words from the box.

laptop	desktop PC	PDA	mainframe	tablet PC

a desktop PC

b tablet PC

c laptop

d mainframe

e PDA

B Listen again and decide whether these sentences are true or false. Correct the false ones.

1 A mainframe computer is less powerful than a PC.
2 A mainframe is used by large organizations that need to process enormous amounts of data.
3 The most suitable computers for home use are desktop PCs.
4 A laptop is not portable.
5 Laptops are not as powerful as desktop PCs.
6 Using a stylus, you can write directly onto the screen of a tablet PC.
7 A Personal Digital Assistant is small enough to fit into the palm of your hand.
8 A PDA does not allow you to surf the Web.

4 Language work: classifying

A Look at the HELP box and then use suitable classifying expressions to complete these sentences.

1 A computer consists of hardware and software.

2 Peripherals can be devided into three types: input, output and storage devices.

3 A word processing program includes software which lets the user create and edit text.

4 _____ of network architecture: peer-to-peer, where all computers have the same capabilities, and client-server (e.g. the Internet), where servers store and distribute data, and clients access this data.

HELP box

Classifying

Classifying means putting things into groups or classes. We can classify types of computers, parts of a PC, etc. Some typical expressions for classifying are:

- **... are classified into X types/categories**
- **... are classified by ...**
- **... can be divided into X types/categories**

  *Digital computers can be **divided into** five main **types**: mainframes, desktop PCs, laptops, tablet PCs and handheld PDAs.*

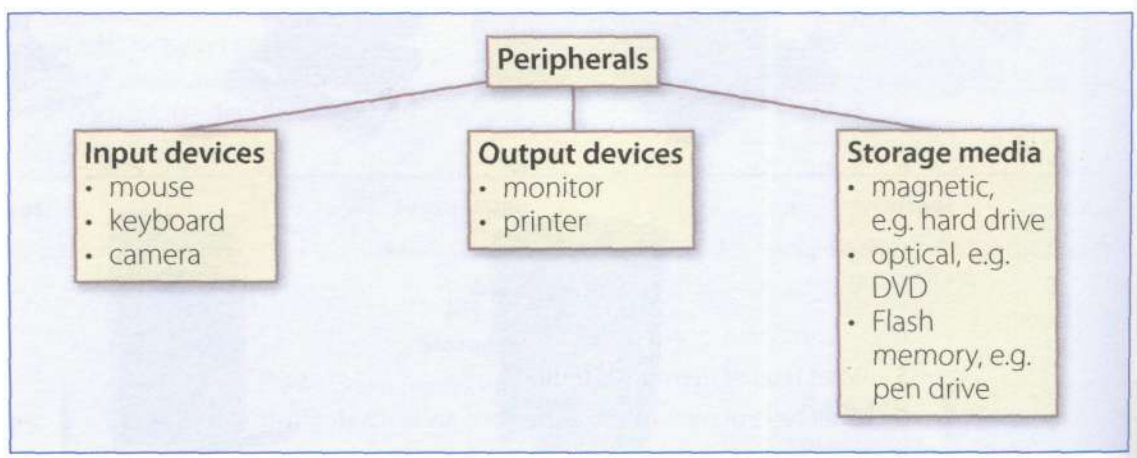
- **... include(s) ...**
- **... consist(s) of ...**

  *The basic configuration of a mainframe **consists of** a central system which processes immense amounts of data very quickly.*

- **There are X types/classes of ...**
- **X is a type of ...**

  *A tablet PC is **a type of** notebook computer.*

B In pairs, describe this diagram, using classifying expressions from the HELP box. Make reference to your own devices.



5 Benefits of laptops and tablet PCs

Your school is considering buying tablet PCs to use in the classroom. Write an email to your teacher explaining the benefits for the students and the school.

or

Your company is considering replacing all of the office PCs with laptops. Write an email to your boss explaining the benefits for the employees and the company.