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UNIT 1

## WARM –UP



1. ***Match each word with the correct definition.***

|  |  |
| --- | --- |
| ***Column A*** | ***Column B*** |
| 1. *monitor* 2. *mouse* 3. *keyboard* 4. *floppy disk* 5. *memory* | 1. a flexible magnetic disk which can be removed from the computer. 2. an electronic visual display for computers. 3. a device that can retain information for later retrieval. 4. an input device like a typewriter for entering characters. 5. a device moved by hand to indicate position on the screen. |

## READING COMPREHENSION

**WHAT IS A COMPUTER?**

Computers are electronic machines which can accept data in a certain form, process the data and give the results of the processing in a specified format as information. (see the diagram below).

Three basic steps are involved in the process. *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.

Information in the form of data and programs is known as software, and the electronic and mechanical parts that make up a computer system are called hardware. A standard computer system consists of three main sections: the central processing unit (CPU), the main memory and the 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 holds instructions and data which are currently being processed by the CPU. The peripherals are the physical units attached to the computer. They include storage devices and input/output devices.

Storage devices (floppy, hard or optical disks) provide a permanent storage of both data and programs. Disk drives are used to handle one or more floppy 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 — modems, fax machines, optical drives and scanners.

To perform any task on the computer, the user provides input to the computer with the help of input devices and then the input devices forward the request of the computer of the CPU which then processes data using its three main components i.e. the Memory Unit, Control Unit, Arithmetic and logical unit and then after processing the data i.e the information to the output devices and is displayed to the user.

## VOCABULARY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| accept | | (v) | chấp nhận, tiếp nhận | |
| central processing unit | | (n) | bộ xử lý trung tâm | |
| component | (n) | | | thành phần | |
| configuration | (n) | | | cấu hình | |
| data | (n) | | | dữ liệu | |
| device | (n) | | | thiết bị | |
| disk | (n) | | | đĩa | |
| electronic | (a) | | | điện tử | |
| external | (a) | | | ngoài, bên ngoài | |
| feature | (n) | | | thuộc tính | |
| hardware | (n) | | | phần cứng | |
| input device | (np) | | | thiết bị đầu vào | |
| instruction | (n) | | | hướng dẫn, lệnh | |
| main memory | (np) | | | bộ nhớ chính | |
| modem | (n) | | | bộ điều chê, mô đem | |
| monitor | (n) | | | màn hình | |
| panel | (n) | | | bảng/ thanh | |
| peripheral | (n) | | | thiết bị ngoại vi (thiết bị điện tử được kết nối bởi dây tới CPU của máy tính) | |
| permanent | (a) | | | bền/ cố định | |
| plug | (v) | | | cắm | |
| port | (n) | | | cổng | |
| process | (v) | | | xử lý | |
| processor | (n) | | | bộ xử lý | |
| rear | (a) | | | sau/ phía sau | |
| software | (n) | | | phần mềm | |
| storage device | (n) | | | thiết bị lưu trữ | |

### Exercise 1. Read the text again and answer the following questions.

1. What can computers do?

Computers are electronic machines which can accept data in a certain form, process the data and give the results of the processing in a specified format as information.How many main steps are involved in the process?

Three basic steps are involved in the process.

1. How many parts are there in a standard computer system? What are they?

A standard computer system consists of three main sections: the central processing unit (CPU), the main memory and the peripherals.

1. What section is the “brain” of the computer? What is its aim?

The central processing unit. Its function is to execute program instructions and coordinate the activities of all the other units

1. How many steps should be done to perform a task on the computer?

……………………………………………………………………………………………

……………………………………………………………………………………………

Exercise 2. Use the information in the text to match the terms with the appropriate explanations or definitions.

|  |  |  |  |
| --- | --- | --- | --- |
| *a. software* | *b. peripheral devices* | *c. monitor* | *d. floppy disk* |
| *e. hardware* | *f. input* | *g. port* | *h. output* |

1. Physical parts that make up a computer. e
2. Programs which can be used on a particular computer system. a
3. The information which is presented to the computer. f
4. Results produced by the computer. h
5. Hardware equipment attached to the computer. b
6. Visual display unit. c
7. Small device used to store information. Same as “diskette”. d
8. Any socket or channel in a computer system into which an input/output device may be connected. g

### Exercise 3. Complete the text below with the given words.

|  |  |  |  |
| --- | --- | --- | --- |
| *Basic-* | *Machine-1* | *Storing-3* | *Signals-4* |
| *Defined* | *operations* | *inside* | *Or-2* |

A computer is a (1) with an intricate network of electronic circuits that

operate switches (2)………….. magnetize tiny metal cores. The I switches, like the

cores, are capable of being in one of two possible I states, that is, on or off; magnetized or demagnetized. The machine is capable of (3)………… and manipulating numbers, letters, and characters. The basic idea of a computer is that we can make the machine do what we want by inputting (4)… that turn certain switches on and turn others

off, or that magnetize or do not magnetize the cores. The (5)………….. job of computers is the processing of information. For this reason, computer can be (6)

…………. as devices which accept information in the form of instructions called a program and characters called data, perform mathematical and/or logical operations on the information, and then supply results of these (7)… The program, or part of it,

which tells the computers what to do and the data, which provide the information needed to solve the problem, are kept (8)………… the computer in a place called memory.

## LANGUAGE FOCUS

### Exercise 1. Read the text again and choose the correct answer for each following sentence.

1. Three basic steps in the process.
   1. is involved B. are involved C. involved D. involve
2. We can see the (the output) on the screen or in printed form.
   1. results B. processes C. components D. programs
3. are electronic machines which can accept data in a certain form.
   1. Data B. peripherals C. Systems D. Computers
4. Storage devices provide a permanent storage of both data programs.
   1. of B. and C. with D. from
5. Disk drives to handle one or more floppy disks.
   1. are provided B. are given C. are used D. are helped
6. The most common \_ are the mouse and the keyboard.
   1. output devices B. input devices C. storage devices D. peripherals
7. Information in the form of data and programs is known software.
   1. as B. several C. many D. a lot of

|  |  |  |
| --- | --- | --- |
| 8. The electronic | and mechanical parts that make up a computer system | are |
| called . |  |  |
| A. software | B. configuration C. main memory D. hardware |  |

1. The user provides input to the computer the help of input devices.
   1. with B. of C. about D. for
2. When the program , the computer performs a set of instructions and processes the data.
   1. run B. is running C. is run D. runs

### Exercise 2. Fill in the gaps using the appropriate form of the words in brackets. (Using passive voice)

1. The part of the processor which controls data transfers between the various input and output devices is called (CALL) the control unit.
2. The address bus is used(USE) to send address details between the memory and the address register.
3. The pixel positions are passed on(PASS ON) to the computer’s pattern recognition software.
4. An operating system is stored(STORE) on disk.
5. Instructions written in a high – level language are transformed (TRANSFORM) into machine code.
6. When a document arrives in the mail room, the envelope is open (OPEN) by a machine.

### Exercise 3. Fill in the gaps using the appropriate form of the words in brackets.BTVN

1. Computers are electronic machines which can accept data in a certain form, process the data and give the results of the PROCESSing in a specified format as information. (PROCESS)
2. When the program is run, the computer PERFORs a set of instructions and processes the data. (PERFORMANCE)
3. The peripherals are the physical units ATTACHed T to the computer.

4. Information (INFORMATIVE)

in the form of data and programs is known as software.

1. The electronic and mechanical parts that make up a computer system are called hardware. (MECHANIC)
2. A standard computer system consists of three main sections: the central processing unit (CPU), the main memory and the peripherals. (MAINLY)

7.Perhaps the most influential component is the central processing unit. (INFLUENCE)

8. The main memory holds instructions and data which are CURRENTLY being processed by the CPU. (CURRENT)

9.Storage devices (floppy, hard or optical disks) provide a permanent storage of both data and PROGRAMS. (PROGRAMMING)

10. Input devices enable data to go into the computer's MEMORY and output

devices enable us to extract the finished product from the system. (MEMORIAL)

## WRITING

***Exercise 1. Use the following sets of words or phrases to write complete sentences.***

1. There/ be/ three/ basic/ step/ process.

There are three basic steps in the process

2.When/ program/ run/ computer/ perform/ set/ instructions/ process/ data.

When the programed is run, the conmputer perfrom a set of instructions and process data

1. standard computer system/ consist/ three main section.

A standard computer system consists of three main section

1. most/ influential/ component/ be/ central/ process/ unit.

The Most influential component is the central process unit

1. main memory/ hold/ instruction/ data/ which/ be/ currently/ process/ by/ CPU.

The main memory hold instructions and data which are currently being processed by CPU.

1. Input device/ enable/ data/ go/ computer’s memory.

Input device enable data to go into computer’s memory.

1. There/ be/ several/ port/ on/ rear panel/ computer.

There are several ports on the rear panel of the computer.

1. Output device/ enable/ us/ extract/ finished product/ system.

Output devices enable us to extract the finished product from the system.

1. user/ provide/ input/ computer/ with/ help/ input devices.

The User provides input to the computer with help of input devices.

1. Storage device/ provide/ permanent/ storage/both data/ program.

Storage devices provide a permanent storage of both data and program.

### Exercise 2. Rewrite the following sentences so that they have the same meaning.

1. Bill Gates founded Microsoft.

*Microsoft* was founded by Bill Gates

1. They developed C language in the 1970s.

*C language* is developed by them in the 1970s.

1. They created the organization to promote the use of computers in education.

*The organization* was created to promote the use of computers in education.

1. The first digital computer was built by the University of Pennsylvania in 1946.

*The University of Pennsylvania* built the first digital computer in 1946

1. All calls are registered by the Help Desk staff.

*The Help Desk staff* register all calls.

# VOCABULARY

|  |  |  |
| --- | --- | --- |
| abacus | (n) | bàn tính |
| allocate | (v) | phân phối |
| analog | (n) | tương tự |
| application | (n) | ứng dụng |
| binary | (a) | nhị phân, thuộc về nhị phân |
| calculation | (n) | tính toán |
| command | (v,n) | ra lệnh, lệnh (trong máy tính) |
| dependable | (a) | có thể tin cậy được |
| devise | (v) | phát minh |
| different | (a) | khác biệt |
| digital | (a) | số, thuộc về số |
| etch | (v) | khắc axit |
| experiment | (v,n) | thí nghiệm |
| figure out | (v) | tính toán, tìm ra |
| generation | (n) | thế hệ |
| history | (n) | lịch sử |
| imprint | (v) | in, khắc |
| integrate | (v) | tích hợp |
| invention | (n) | phát minh |
| layer | (n) | tầng, lớp |
| mainframe computer | (n) | máy tính lớn |
| mathematician | (n) | nhà toán học |
| microminiaturize | (v) | vi hóa |
| multi-task | (n) | đa nhiệm |
| multi-user | (n) | đa người dùng |
| operating system | (n) | hệ điều hành |
| particular | (a) | đặc biệt |
| predecessor | (n) | người, vật tiền nhiệm; tổ tiên |
| priority | (n) | sự ưu tiên |
| productivity | (n) | hiệu suất |
| real-time | (a) | thời gian thực |

|  |  |  |
| --- | --- | --- |
| schedule | (v,n) | lập lịch; lịch biểu |
| similar | (a) | giống |
| storage | (n) | lưu trữ |
| technology | (n) | công nghệ |
| tiny | (a) | nhỏ bé |
| transistor | (n) | bóng bán dẫn |
| vacuum tube | (n) | bóng chân không |



UNIT2

## WARM –UP

***Match each word with the correct definition.***

|  |  |
| --- | --- |
| ***Column A*** | ***Column B*** |
| 1. *patterns menu* 2. *scaling* 3. *rotating* 4. *inverting* 5. *zoom* 6. *slanting* 7. *black and white dithering* | 1. Turning an image around 2. A tool which lets you scale the “view” of a picture and edit small portion of it as if you were working under a magnifying glass. It is very useful for doing detailed work as you can edit the pictures one dot at a time. 3. Making the object larger or smaller in any of the horizontal, vertical, or depth directions. 4. A shading technique where two different colours are placed next to each other, the human eye blends the colours to form a third one. It is also used to show shading in black and white. 5. A palette from which you choose a design to fill in shapes. 6. Reversing the colour of the dots in the selected part of a picture, so that white dots become black and black dots become white. 7. Inclining an object to an oblique position. |

**READING COMPREHENSION**

Computer graphics are pictures and drawings produced by computers. A graphics program interprets the input provided by the users and transforms it into images that can be displayed on screen, printed on paper, or transferred to microfilm. In the process, the computer uses hundreds of mathematical formulas to convert the bits of data into precise shapes and colors. Graphics can be developed for a variety of uses including presentations, desktop publishing, illustrations, architectural designs, and detailed engineering drawings.

Mechanical engineers use sophisticated programs for applications in computer- aided design and computer-aided manufacturing. Let us take, for example, the car industry. CAD software is used to develop, model and test car designs before the actual parts are made. This can be save a lot of time and money.

Computers are also used to present data in a more understandable form: electrical engineers use computer graphics to design circuits and people in business can present information visually to clients in graphs and diagrams. These are much more effective ways of communicating than lists of figures or long explanations.

Today, three-dimensional graphics along with color and animation, are essential for such applications as fine art, graphics design, web-page design, computer-aided engineers, and academic research. Computer animation is the process of creating objects and pictures, which move across the screen; it is used by scientists and engineers to analyze problems. With the appropriate software, they can study the structure of objects and how it is affected by particular changes.

Basically, computer graphics help users to understand complex information quickly by presenting it in a clear visual form.

VOCABULARY

|  |  |  |
| --- | --- | --- |
| interpret | (v) | phiên dịch |
| formula | (n) | công thức |
| diagram | (n) | biểu đồ |
| three-dimensional graphics | (np) | đồ họa ba chiều |
| computer-aided engineering | (np) | kỹ nghệ dựa trên máy tính |
| visual | (a ) | trực quan |
| geometric | (a) | thuộc hình học |

|  |  |  |
| --- | --- | --- |
| arcs | (n) | hình cung |
| transform | (a) | thay đổi, chuyển đổi |
| image | (n) | hình ảnh |
| microfilm | (n) | vi phim |
| mathematical formula | (np) | công thức toán học |
| precise | (a) | chính xác |
| illustration | (np) | minh họa |
| sophisticated | (a) | tinh vi, phức tạp |
| application | (n) | ứng dụng |
| circuit | (n) | mạch điện |
| client | (n) | khách hàng |
| animation | (n) | hiệu ứng, hoạt hình |
| object | (n) | đồvật |
| analyze | (v) | phân tích |
| appropriate | (a) | thích hợp |
| affect | (v) | ảnh hưởng,tác động đến |
| complex | (a) | phức tạp, rắc rối |
| actual | (a) | thực tế, có thật |
| fine art | (np) | mỹ thuật |

### Read the text and answer the following questions.

1. What are “computer graphics”?

Computer graphics are pictures and drawings produced by computers

1. What do the acronyms “CAD”, “CAE”, and “CAM” stand for?

Computer-Aided Design/ Computer-Aided Engineering/ Computer-Aided Manufacturing

1. What are the benefits of using computer graphics in the car industry?

Computer graphics can be used to develop, model and test car designs before the actual parts are made. This can be save a lot of time and money.

1. What are the benefits of using graphics in business?

can present information visually to clients in graphs and diagrams

1. What is “computer animation”?

Computer animation is the process of creating objects and pictures, which move across the screen

## LANGUAGE FOCUS

### Exercise 1. Read the text again and choose the correct answer for each following sentence.

1. Computer graphics are pictures and drawings produced computers.
   1. through B. by C. into D. at
2. A graphics interprets the input provided by the user.
   1. design B. software C. hardware D. program
3. In the process, the computer uses hundreds of mathematical to convert the bits of data into precise shapes and colors.
   1. formulas B. figure C. cardinal number D. ordinal number
4. Graphics can be \_ for a variety of uses including presentations, desktop publishing, illustrations, architectural designs, and detailed engineering drawings.
   1. developing B. developed C development D. undeveloped
5. Mechanical engineers use sophisticated programs applications in computer- aided design and computer-aided manufacturing.
   1. into B. of C. for D with
6. In the car industry, \_ is used to develop, model and test car designs before the actual parts are made.
   1. Memory Unit B. Control Unit C. Logical Unit D. CAD software
7. Computers are also used to present in a more understandable form.
   1. data B. results C. numbers D. figures
8. Electrical engineers use computer graphics to design\_ .
   1. wires B. circuits C. electricity D. powers
9. People in business can \_ information visually to clients in graphs an diagrams.
   1. make B. present C. have D. take
10. , computer graphics help users to understand complex information quickly by presenting it in a clear visual form.
    1. Finally B. Fortunately C. Basically D. Lately

### Exercise 2. Fill in the gaps using the appropriate form of the words in brackets.

1. In the process, the computer uses hundreds of mathematical formulas to convert the bits of data into PRECISE shapes and colors. (PRECISION)
2. Graphics can be developed for a variety of uses including presentations, desktop publishing, ILLUSTRATIONS, architectural designs. (ILLUSTRATE)
3. Mechanical ENGINEERS use sophisticated programs for applications in computer- aided design and computer-aided manufacturing. (ENGINEERING)
4. Computers are also used to PRESENT data in a more understandable form. (PRESENTATION)
5. Today, three-dimensional graphics along with color and ANIMATION, are essential for such applications as fine art, graphics design, web-page design, computer-aided engineers, and academic research. (ANIMATE)
6. Computer animation is the process of CREATING objects and pictures, which move across the screen. (CREATION)
7. They can study the structure of objects and how it is AFFECTED by particular changes. (AFFECTIVE)
8. Computer graphics help USERS to understand complex information quickly by presenting it in a clear visual form. (USEFUL)
9. Computer graphics are pictures and DRAWING produced by computers. (DRAW)
10. A graphics program interprets the input provided by the user and TRANSFORMS it into images that can be displayed on screen, printed on paper, or transferred to microfilm. (TRANSFORMATION)

## WRITING

### Exercise 1. Use the following sets of words or phrases to write complete sentences.

1. Computer graphics/ be/ picture/ drawing /produce/ computers.

Computer graphics are pictures and drawings produced by computers.

1. A graphics program/ interpret/ input/ provide/ the users.

A graphics program interprets the input provided by the users

1. computer/ uses /hundreds /mathematical formula/ convert/ data/ precise shape /color.

The computer uses hundreds of mathematical formulas to convert the bits of data into precise shapes and colors.

1. Graphics can/ be/ develop/ for/ variety/ uses.

Graphics can be developed for a variety of uses

1. Electrical engineer/ use/ computer graphics/ design/ circuit.

Electrical engineers use computer graphics to design circuits

1. People/ business/ can/ present/ information/ visually/ clients/ graphs/ diagrams.

People in business can present information visually to clients in graphs and diagrams

1. Three-dimensional graphics/ along with/ color and animation/ be /essential/ fine art/ graphics design/ web-page design/ computer-aided engineers/ academic research.

Three-dimensional graphics along with color and animation, are essential for such applications as fine art, graphics design, web-page design, computer-aided engineers, and academic research

1. Computer animation/ be/ process/ create/ object/ picture.

Computer animation is the process of creating objects and pictures

1. Computer animation/ be/ use/ by/ scientist/ engineer/ analyze/ problem.

Computer animation is used by scientists and engineers to analyze problems

1. Computer graphics/ help/ user/ understand/ complex/ information/ quickly.

Computer graphics help users to understand complex information quickly by presenting it in a clear visual form.

### Exercise 2. Rewrite the following sentences so that they have the same meaning.

1. Because the floppy disks are inexpensive and reusable, you can buy them to store data.

*Because of* the inexpensive and reusable floppy disks, you can buy them to store data.

1. As the results are irregular, they will rewrite the program.

*As the results are irregular, the program* will be rewritten by them

1. If a printer malfunctions, you should check the interface cable.

*The interface cable* should be checked by you, If a printer malfunctions

1. Because you transfer the text using the “cut and paste” feature, you have to reformat the text you have inserted.

*Because of*  transferring the text using the “cut and paste” feature, you have to reformat the text you have inserted.

1. We can store information in the RAM temporarily.

*Information* can be stored in the RAM temporarily by us

# VOCABULARY

|  |  |  |
| --- | --- | --- |
| activity | (n) | hoạt động |
| animation | (n) | hoạt hình |

|  |  |  |
| --- | --- | --- |
| attach | (v) | gắn vào, đính vào |
| condition | (n) | điều kiện |
| coordinate | (v) | phối hợp |
| crystal | (n) | tinh thể |
| diagram | (n) | biểu đồ |
| display | (v,n) | hiển thị; màn hình |
| distribute | (v) | phân phối |
| divide | (v) | chia |
| document | (n) | văn bản |
| electromechanical | (a) | có tính chất cơ điện tử |
| encode | (v) | mã hóa |
| estimate | (v) | ước lượng |
| execute | (v) | thi hành |
| expertise | (n) | sự thành thạo |
| graphics | (n) | đồ họa |
| hardware | (n) | phần cứng |
| interchange | (v) | trao đổi lẫn nhau |
| liquid | (n) | chất lỏng |
| magazine | (n) | tạp chí |
| majority | (n) | phần lớn, phần chủ yếu |
| multimedia | (n) | đa phương tiện |
| online | (a) | trực tuyến |
| package | (n) | gói |
| physical | (a) | thuộc về vật chất |
| recognize | (v) | nhận ra, nhận diện |
| secondary | (a) | thứ cấp |
| service | (n) | dịch vụ |

|  |  |  |
| --- | --- | --- |
| software | (n) | phần mềm |
| solve | (v) | giải quyết |
| sophistication | (n) | sự phức tạp |
| superior (to) | (a) | hơn, trên, cao hơn… |
| task | (n) | nhiệm vụ |
| text | (n) | văn bản |

# VOCABULARY

|  |  |  |
| --- | --- | --- |
| ability | (a) | khả năng |
| access | (v,n) | truy cập; sự truy cập |
| acoustic coupler | (n) | bộ ghép âm |
| analyst | (n) | nhà phân tích |
| centerpiece | (n) | mảnh trung tâm |
| channel | (n) | kênh |
| characteristic | (n) | thuộc tính, nét tính cách |
| cluster controller | (n) | bộ điều khiển trùm |
| consist (of) | (v) | bao gồm |
| convert | (v) | chuyển đổi |
| equipment | (n) | trang thiết bị |
| gateway | (n) | cổng kết nối |
| interact | (v) | tương tác |
| limit | (v,n) | hạn chế |
| merge | (v) | trộn |
| multiplexor | (n) | bộ dồn kênh |
| network | (n) | mạng |
| peripheral | (a) | ngoại vi |
| reliability | (n) | sự có thể tin cậy được |
| single-purpose | (n) | đơn mục đích |
| teleconference | (n) | hội thảo từ xa |



UNIT 3

## WARM –UP

* 1. An operating system is used to
     1. control the system resources of a computer
     2. control the running of application programmers.
     3. both A and B
  2. All computers \_
     1. use only one operating system.
     2. do not use the same operating system.
     3. use a special operating system.
  3. is called multi-tasking.
     1. The capability of computer to run more than one program at the same time
     2. The use of computers to process some programs at any time
     3. The capability of computer to process one program at the same time
  4. In multi-user environment, \_
     1. a user can access some computers at exactly the same time.
     2. users have to be under control to access the same computer system..
     3. some users can access a computer system at exactly the same time.
  5. An operating system is stored
     1. into the internal memory.
     2. in application memory.
     3. on disk.

## READING COMPREHENSION

**OPERATING SYSTEMS – GENERAL FEATURES**

An operating system is a master control program which controls the functions of the computer system as a whole and the running of application programs. All computers do not use the same operating systems. It is therefore important to assess the operating system used on a particular model before initial commitment because some software is only designed to run under the control of specific operating systems. Some operating systems are adopted as «industry standards» and these are the ones which should be evaluated because they normally have a good software base. The reason for this is that software houses are willing to expand resources on the development of application packages for machines functioning under the control of an operating system which is widely used. The cost of software is likely to be lower in such circumstances as the development costs are spread over a greater number of users, both actual and potential.

Mainframe computers usually process several application programs concurrently, switching from one to the other, for the purpose of increasing processing productivity. This is known as multiprogramming (multi-tasking in the context of microcomputers), which requires a powerful operating system incorporating work scheduling facilities to control the switching between programs. This entails reading in data for one program while the processor is performing computations on another and printing out results on yet another.

In multi-user environments an operating system is required to control terminal operations on a shared access basis as only one user can access the system at any moment of time. The operating system allocates control to each terminal in turn. Such systems also require a system for record locking and unlocking, to prevent one user attempting to read a record whilst another user is updating it, for instance. The first user is allocated control to write to a record (or file in some instances) and other users are denied access until the record is updated and unlocked.

An operating system is stored on disk and has to be booted into the internal memory (RAM) where it must reside throughout processing so that commands are instantly available. The operating system commands may exceed the internal memory capacity of the computer in which case only that portion of the OS which is frequently used is retained internally, other modules being read in from disk as required. Many microcomputers function under the control of disk operating system known as DOS.

**VOCABULARY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| allocate | (v) | | phân bổ, phân phối | |
| attain | (n) | | đạt được, giành được | |
| batch | (n) | | đợt, chuyến, khóa, lô | |
| boot | (v) | | khởi động | |
| circumstance | (n) | | tình huống, hoàn cảnh | |
| commitment | (v) | | cam kết | |
| concurrently | (adv) | | đồng thời | |
| entail | (v) | | dẫn đến, cho phép | |
| exceed | (v) | | vượt quá | |
| expand | (v) | | mở rộng | |
| evaluate | (v) | | đánh giá, định giá | |
| function | (n) | | chức năng | |
| interrupt | (v) | | ngắt | |
| mainframe | (n) | | máy tính lớn, máy đại điện toán | |
| multiprogramming | | (n) | đa chương trình |
| reside | | (v) | ngụ, cư trú |
| retain | | (v) | giữ lại |
| specific | | (a) | đặc trưng, riêng biệt |
| potential | | (a, n) | tiềm năng |
| priority | | (n) | ưu tiên |
| whilst | | (adv) | trong khi, thời gian |

### Exercise 1. Read the text again and choose the correct answer.

1. What is an operating system?

An operating system is a master control program which controls the functions of the computer system as a whole and the running of application programs

1. Is it important to assess the operating system on the computer before using it? Why?

Yes,it is. Because all computers do not use the same operating systems

1. Why are several application programs usually processed concurrently?

for the purpose of increasing processing productivity

1. Why do some OSs require a system for record locking and unlocking?

to prevent one user attempting to read a record whilst another user is updating it

1. What happens when the OS commands exceed the internal memory capacity of the computer?

only that portion of the OS which is frequently used is retained internally, other modules being read in from disk as required

### Exercise 2. Fill in the blanks with these words: execute, monitor, format, diagnose. Sometimes more than one choice may apply.

A typical operating system will.................

* 1. **monitor** input and output devices.
  2. **monitor** the status of hardware devices.
  3. **diagnose** hardware interrupts.
  4. **format** new disks.
  5. **monitor** disk directories.
  6. **Execute** disk reading and writing operations.
  7. **diagnose** disk errors.
  8. **execute** disk commands relating to the deletion, copying, renaming

and dumping of files.

## LANGUAGE FOCUS

### Exercise 1. Read the text again and choose the correct answer for each following sentence.

1. An operating system is a master control program controls the functions of the computer system
   1. who B. which C. when D. where
2. some software is only designed to run under the control of specific operating systems, it is therefore important to assess the operating system used on a particular model before initial commitment.
   1. Though B. Although C. Because D. Thus
3. The cost of software is likely to be lower in circumstances as the development costs are spread over a greater number of users
   1. such B. so C. as D. such as
4. It is the reason software houses are willing to expand resources on the development of application packages.
   1. when B. where C. why D. which
5. increasing processing productivity, mainframe computers usually process several application programs concurrently, switching from one to the other,
   1. Because B. So C. Due to D. Since
6. In environments an operating system is required to control terminal operations on a shared access basis as only one user can access the system at any moment of time.
   1. anti-user B. multi-user C. over-user D. super-user
7. The first user is allocated control to write to a record and other users are denied access the record is updated and unlocked.
   1. until B. so C. due to D. though
8. An operating system is stored on disk and has to be booted into the memory (RAM).
   1. secondary B. primary C. external D. internal
9. The operating system commands may\_ the internal memory capacity of the computer in which case only that portion of the OS which is frequently used is retained internally, other modules being read in from disk as required.
   1. cover B. expand C. exceed D. spread
10. Many microcomputers function under the control of disk operating system known as \_.
    1. SRAM B. PROM C. DRAM D. DOS

### Exercise 2. Fill in the gaps using the appropriate form of the words in brackets.

1. It is important to assess the operating system used on a particular model before initial commitment. (ASSESSMENT)
2. Some software is only designed to run under the control of specific operating systems. (SPECIFICATION)
3. Some operating systems are adopted as "industry standards" and these are the ones which should be evaluated because they normally have a good software base.

(EVALUATION)

1. Software houses are willing to expand resources on the development of

application packages for machines functioning under the control of an operating system. (DEVELOP)

1. Mainframe computers usually process several application programs

Concurrently , switching from one to the other. (CONCURRENT)

1. In most configurations, the OS is AUTOMATICALY loaded into the RAM section when the computer is started up. (AUTOMATIC)
2. Many microcomputers function under the control of disk operating system

Known as DOS. (KNOW)

1. The operating system commands may exceed the internal memory

Capacity of the computer. (CAPABLE)

1. OS2/ Wrap is the PC world’s most technically SOPHISTICATED operating system. (SOPHISTICATE)
2. An operating system is stored on disk and has to be booted into the internal memory (RAM). (BOOT)

### Exercise 3. Complete these sentences by adding who, which, where, when and why

1. Some operating systems are the ones Which should be evaluated because they normally have a good software base.
2. It is the reason Why software houses are willing to expand resources on the development of application packages.
3. An operating system has to be booted into the internal memory (RAM) Where it must reside throughout processing so that commands are instantly available
4. A webmaster is a person Who designs, develops and maintains a web.
5. The people Who use online service always want to have the programs

Which actually meet their needs

## III. WRITING

### Exercise 1. Use the following sets of words or phrases to write complete sentences.

1. Operating system / master control program / which/ control / functions / computer system / as/ whole / and/ running of application programs.

An operating system is a master control program which controls the functions of the computer system as a whole and the running of application programs

1. All/ computer / not use / same / operating system.

All computers do not use the same operating systems

1. Mainframe computer / usually / process / several application programs concurrently.

Mainframe computers usually process several application programs concurrently

1. In/ multi-user environment/ operating system/ require/ control/ terminal operations/ on/ shared/ access basis.

In multi-user environments an operating system is required to control terminal operations on a shared access basis

1. operating system/ allocate/ control/ each terminal/ turn.

The operating system allocates control to each terminal in turn

1. first user / allocate/ control /write / record.

The first user is allocated control to write to a record

1. An/ operating system/ store/ disk/ and / have/ be/ boot/ into/ internal memory (RAM).

An operating system is stored on disk and has to be booted into the internal memory (RAM)

1. The / operating system commands/ may/ exceed / internal/ memory/ capacity/ computer.

The operating system commands may exceed the internal memory capacity of the computer

1. Operating system/ must/ reside/ throughout/ processing / internal memory.

Operating system must reside throughout processing the internal memory.

1. Many /microcomputer/ function /control /disk operating system /know/ as/ DOS.

Many microcomputers function under the control of disk operating system known as DOS.

### Exercise 2. Rewrite the following sentences using relative clauses.

1. The microprocessor coordinates the activities. These activities take place in the computer system.

*The microprocessor* coordinates the activities which take place in the computer system.

1. When IBM was looking for an operating system, they went initially to Digital Research.

*When looking* for an operating system,IBM went initially to Digital Research.

3 The microprocessor stores the required information in RAM.

*The required information* is stored in RAM by The microprocessor

1. A megahertz is a unit of frequency. The unit is to measure processor speed.

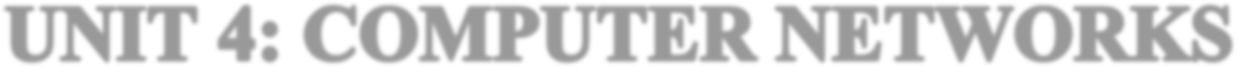
*A megahertz which* is to measure processor speed, is a unit of frequency

1. You can use the Shift key to type in upper case.

*The Shift key* can used to type in upper case by you.

# VOCABULARY

|  |  |  |
| --- | --- | --- |
| acceptable accuracy computer science concentrate economical financial  information system interchangeably internal memory objective  pinpoint precisely relevant responsible retrieve situation sufficient transaction  trend | (a)  (n)  (n)  (v)  (a)  (a)  (n)  (adv)  (n)  (n)  (v)  (adv)  (a)  (a)  (v)  (n)  (a)  (n) (v,n) | có thể chấp nhận được sự chính xác  khoa họa máy tính tập trung  một cách kinh tế thuộc về tài chính hệ thống thông tin  hoán đổi, trao đổi cho nhau bộ nhớ trong  mục tiêu, mục đích  chỉ ra một cách chính xác chính xác  thích hợp, có liên quan chịu trách nhiệm  lấy, gọi ra  tình huống, trạng thái, bối cảnh đủ, thích đáng  giao tác  xu huống |



UNIT 4

1. **WARM –UP**

## READING COMPREHENSION

COMPUTER NETWORKS

A computer network comprises two or more computers that are connected either by cables (wired) or wifi (wireless) with the purpose of transmitting, exchanging, or sharing data and resources. Geographic location often defines a computer network. For example, a LAN (local area network) connects computers in a defined space, like an office building, whereas a WAN (wide area network) can connect computers across continents.

You can further define a computer network by the protocols. Computer networks enable communication for every business, entertainment, and research purpose. The internet, online search, email, audio and video sharing, online commerce, live-streaming, and social networks all exist because of computer networks.

Here are the most common and widely used computer network types:

• LAN (local area network): A LAN connects computers over a relatively short distance, allowing them to share data, files, and resources. For example, a LAN may connect all the computers in an office building, school, or hospital.

• WAN (wide area network): A WAN connects computers over a wide area, such as from region to region or even continent to continent. The internet is the largest WAN, connecting billions of computers worldwide.

• MAN (metropolitan area network): MANs are typically larger than LANs but smaller than WANs. Cities and government entities typically own and manage MANs.

• PAN (personal area network): A PAN serves one person. For example, if you have an iPhone and a Mac, it’s very likely you’ve set up a PAN that shares and syncs content - text messages, emails, photos, and more - across both devices.

• CAN (campus area network): A CAN is also known as a corporate area network. A CAN is larger than a LAN but smaller than a WAN. CANs serve sites such as colleges, universities, and business campuses

## VOCABULARY

|  |  |  |
| --- | --- | --- |
| allow | (v) | cho phép |
| bulletin board | (n) | bảng thông tin |
| blurred | (a) | mờ nhạt |
| distinction | (n) | sự khác biệt |
| co-operate | (v) | hợp tác, cộng tác |
| exchange | (v) | trao đổi |
| fibre-optic cable | (n) | cáp quang |
| interface | (n) | giao diện |
| mainframe | (n) | máy tính trung ương |
| microcomputer | (n) | máy vi tính |
| LAN | (n) | mạng cục bộ |
| line | (n) | đường dẫn |
| parse | (v) | phân tích |
| protocol | (n) | giao thức, nghi thức |
| query | (n) | truy vấn, câu hỏi |
| reduce | (v) | giảm |
| satellite | (n) | vệ tinh |
| split | (v) | chia, tách |
| specific | (a) | đặc trưng, riêng biệt |
| Structured Query Language | (n) | ngôn ngữ truy vấn mang tính cấu trúc |
| synchronous | (a) | đồng bộ |
| terminal | (n) | thiết bị đầu cuối |

**Read the text and answer the following questions.**

1. What does a computer network comprise?

A computer network comprises two or more computers that are connected either by cables (wired) or wifi (wireless) with the purpose of transmitting, exchanging, or sharing data and resources.

1. Does geographic location often define a computer network?

Yes, it does.

1. How can you further define a computer network?

You can further define a computer network by the protocols.

1. What do computer networks enable communication for?

Computer networks enable communication for every business, entertainment, and research purpose

1. How many main computer network types are mentioned in the text? What are they?

There five types. Lan, Wan, Man, Pan, Can.

## LANGUAGE FOCUS

### Exercise 1. Read the text again and choose the correct answer for each following sentence.

1. A computer network comprises two or more computers are connected either by cables (wired) or wifi (wireless).
   1. that B. whom c. who D. what
2. Geographic location often a computer network.
   1. creates B. discovers c. invents D. defines
3. A LAN (local area network) connects computers a defined space, like an office building.
   1. of B. in c. on D. with
4. A WAN (wide area network) can connect computers \_ continents.
   1. between B. across C. past D. over
5. You can further define a computer network by the \_.
   1. protocols B. communication C. internet D. resources
6. Computer networks communication for every business, entertainment, and research purpose.
   1. able B. enable C. label D. cable
7. The internet, online search, email, audio and video sharing, online commerce, live- streaming, and social networks all exist \_ computer networks.
   1. as B. because C. since D. because of
8. A LAN may all the computers in an office building, school, or hospital.
   1. links B. combine C. connect D. consist
9. The internet is the largest WAN, connecting billions of computers \_.
   1. whole world B. worldwide C. global D. earth
10. If you have an iPhone and a Mac, it’s very likely you’ve \_\_\_\_\_\_\_ a PAN that shares and syncs content - text messages, emails, photos, and more - across both devices.
    1. take up B. start up C. set up D. get up

### Exercise 2. Fill in the gaps using the appropriate form of the words in brackets.

1. A computer network comprises two or more computers that are connected either by cables or wifi. (CONNECTION)
2. The internet is the largest example of a WAN, connecting billions of computers worldwide. (LARGE)
3. Computer networks enable communication for every business, entertainment, and research purpose. (COMMUNICATE)
4. The internet, online search, email, audio and video exist because of computer networks. (SHARING) sharing and social networks all
5. A LAN connects computers over a relatively short distance. (RELATIVE)
6. A WAN connects computers over a wide area, such as from region to region or even continent to continent. (WIDTH)
7. Cities and government entities typically own and network. (MANAGER)manage metropolitan area
8. A personal area network SERVES one person. (SERVICE)
9. A campus area network is also KNOWN as a corporate area network. (KNOW)
10. A campus area network is larger than a LAN but that a WAN (SMALL).

## III. WRITING

Exercise 1. Use the following sets of words or phrases to write complete sentences.

1. Geographic/ location/ define/ computer network.

Geographic location often defines a computer network.

1. local area network/ connect/ computer/ defined space.

Local area network connects computers in a defined space

1. wide area network/ can/ connect/ computer/continent.

Wide area network can connect computers across continents.

1. You/ can/ further/ define/ computer network/ protocols.

You can further define a computer network by the protocols.

1. Computer networks/ enable/ communication/ every business/ entertainment/ research purpose.

Computer networks enable communication for every business, entertainment, and research purpose.

1. local area network/ connect/ computer/ relatively/ short/ distance.

Local area network connects computers over a relatively short distance.

1. local area network/connect/ all/ computer/ an office building/ school/ hospital.

Local area network may connect all the computers in an office building, school, or hospital.

1. wide area network/ connect/ computer/ wide area.

Wide area network connects computers over a wide area.

1. Cities/ government entities/ typically/ own/ manage/ metropolitan area network.

Cities and government entities typically own and manage metropolitan area network.

1. Campus area network/ serve/ site/ such/ college/ university/ business campus.

Campus area network serve sites such as colleges, universities, and business campuses

### Exercise 2. Rewrite the following sentences.

1. The part of the process which control data transfers between the various input and output devices is called the control unit.

*The part of the process* controling data transfers between the various input and output devices is called the control unit.

1. Instructions written in a high level language are transformed into machine code.

*Instructions* which are written in a high level language are transformed into machine code.

1. A program which is designed to perform a specific task is called an application program.

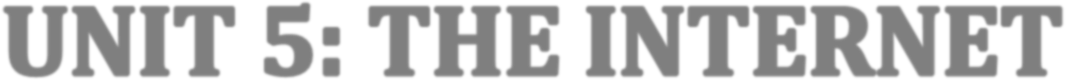
*A program* designed to perform a specific task is called an application program.

1. A network has two main elements: the physical structure linking the equipment and the software allowing communication.

*A network* has two main elements: the physical structure which links the equipment and the software which allows communication.

1. Cables consist essentially of the transceiver – the hardware which sends and receives network signals.

*Cables* consist essentially of the transceiver – the hardware sending and receiving network signals



UNIT 5

## WARM-UP

## II. READING

**Security and Privacy on the internet**

There are a lot of benefits from an open system, like the internet, but we are also exposed to hackers who break into computer systems just for fun, as well as to steal information or propagate viruses. So how do you go about making online transactions secure?

**Security on the Web**

The question of security is crucial when sending confidential information such as credit card numbers. For example, consider the process of buying a book on the web. You have to type your credit card number into an order form which passes from computer to computer on its way to the online bookstore. If one of the intermediary computers is infiltrated by hackers, your data can be copied. To avoid risks, you should set all security alerts to high on your Web Browser and Internet Explorer display a lock when the Web page is secure and allow you to disable or delete ‘cookies’. If you use online bank services, make sure your bank uses digital certificates. A popular security standard is SET (secure electronic transactions).

**Email privacy**

Similarly, as your email message travels across the net, it is copied temporarily on many computers in between. This means it can be read by unscrupulous people who illegally enter computer systems. The only way to protect a message is to put it in a sort of ‘envelope’, that is, to encode it with some forms of encryption. A system designed to send emails privately is Pretty Good Privacy, a freeware program written by Phil Zimmerman.

**Network security**

Private networks connected to the internet can be attacked by intruders who attempt to take valuable information such as social security numbers, bank accounts, or research and business reports. To protect crucial data, companies hire security consultants who analyze the risks and provide security solutions. The most common 3 methods of protection are passwords for access control, encryption, decryption systems, and firewalls.

**Virus protections**

Viruses can enter a PC through files from disks, the internet, or bulletin board systems. If you want to protect your system, don’t open email attachments for strangers and take care when downloading files from the web. (Plain text email alone can’t pass a virus). Remember also to update your anti-virus software as often as possible, since new viruses are being created all the time

**VOCABULARY**

|  |  |  |
| --- | --- | --- |
| concept | (n) | khái niệm, thuật ngữ |
| laboratory | (n) | phòng thí nghiệm |
| prorocol | (n) | giao thức, giao diện |
| separate | (v) | tách biệt, riêng rẽ |
| standardize | (v) | tiêu chuẩn hóa |
| interconnect | (v) | kết nối, hợp, mạng |
| supercomputer | (n) | siêu máy tính |
| emerge | (v) | nổi lên, xuất hiện |
| commercialize | (v) | thương mại hóa |
| interactive | (adj) | tác động lẫn nhau |
| decommission | (n) | hủy bỏ, xóa bỏ |
| restriction | (n) | hạn chế |
| revolutionary | (adj) | thuộc cách mạng |
| impact | (n) | tác động, ảnh hưởng |
| transmit | (v) | chuyển đổi, truyền |
| takeover | (v) | tiếp quản |
| lancsape | (n) | cảnh quan |
| telecommunicate | (v) | viễn thông |

Read the text on the following page and find answers to these questions.

1. Why is security so important on the Internet?

we are also exposed to hackers who break into computer systems just for fun, as well as to steal information or propagate viruses

2.What security standard is used by most banks to make on line transaction secure?

A popular security standard is SET

3. How can we protect and keep our email private?

The only way to protect a message is to put it in a sort of ‘envelope’, that is, to encode it with some forms of encryption

4. What methods are used by companies to make internal networks secure?

The most commonmethods of protection are passwords for access control,encryption, decryption systems, and firewalls.

5. Which ways can a virus enter a computer system?

Viruses can enter a PC through files from disks, the internet, or bulletin board systems

## LANGUAGES FOCUS

### Exercise 1. Read the text again and choose the correct answer for each following sentence.

1. There are a lot of benefits from an \_\_\_\_\_\_\_ system, like the internet.

A. open B. close C. outdoor D indoor

2. We are also exposed to hackers \_\_\_\_\_\_\_\_ break into computer systems.

A. whom B. which C. what D. who

3. The question of security is crucial when sending \_\_\_\_\_\_\_\_\_\_ information such as credit card numbers.

A. unimportant B. unnecessary C. confidential D. unauthorized

4. If one of the intermediary computers is infiltrated \_\_\_\_\_\_\_\_\_ hackers, your data can be copied.

A. to B. by C. from D. of

5. \_\_\_\_\_\_\_\_ you use online bank services, make sure your bank uses digital certificates.

A. Although B. Because C. If D. Unless

6. A system designed to send emails privately is Pretty Good Privacy, a freeware program \_\_\_\_\_\_\_\_\_ by Phil Zimmerman.

A. decoded B. invented C. written D. spoken

7. To protect \_\_\_\_\_\_\_\_ data, companies hire security consultants who analyze the risks and provide security solutions.

A. crucial B. digital C. protocol D. local

8. The most common methods of protection are passwords for access control, encryption, \_\_\_\_\_\_\_\_ systems, and firewalls.

A. transaction B. decryption C. transmission D. communication

9. \_\_\_\_\_\_\_\_ can enter a PC through files from disks, the internet, or bulletin board systems.

A. hacker B. internet C. privacy D. viruses

10. If you want to protect your system, don’t open email attachments for strangers and take care when \_\_\_\_\_\_\_\_\_\_\_ files from the web.

A. uploading B. downloading C. transmitting D. attacking

**Exercise 2. Fill in the gaps using the appropriate form of the words in brackets.**

1. Hackers break into computer systems just for fun, as well as to steal information or propagate viruses. (INFORM)

2. The question of security is crucial when sending confidential information such as credit card numbers. (SECURE)

3. If you use online bank services , make sure your bank uses digital certificates. (SERVE)

4. As your email message travels across the net, it is copied temporarily on many computers in between. (TEMPORARY)

5. The only way to protect a message is to put it in a sort of ‘envelope’, that is, to encode it with some forms of encryption. (PROTECTION)

6. A system designed to send emails privately is Pretty Good Privacy, a freeware program written by Phil Zimmerman. (WRITE)

7. Private networks connected to the internet can be attacked by intruders. (CONNECTION)

8. Companies hire security consultants who analyze the risks and provide security solutions. (ANALYST)

9. If you want to protect your system, don’t open email attachments for strangers and take care when downloading files from the web. (ATTACH)

10. Remember also to update your anti-virus software as often as possible, since new viruses are being created all the time. (POSSIBILITY)

## IV. WRITING

### Exercise 1. Use the following sets of words or phrases to write complete sentences.

1. There/ be/ a lot/ benefit/ from/ open system/, / like/ internet.

There are a lot of benefits from an open system, like the internet

2. How/ you/ go/ about/ make/ online transaction/ secure?

how do you go about making online transactions secure?

3. If/ one/ of / intermediary computer/ be/ infiltrated/ hackers/, / your/ data/ can/ copied.

If one of the intermediary computers is infiltrated by hackers, your data can be copied

4. If/ you/ use/ online/ bank/ service/, / make/ sure/ bank/ use/ digital certificate.

If you use online bank services, make sure your bank uses digital certificates

5. As/ your/ email message/ travel/ net, it/ be/ copied/ temporarily/ many/ computers/ in between.

As your email message travels across the net, it is copied temporarily on many computers in between.

6. Private/ network/connected/internet/ can/ attacked/ by/ intruder.

Private networks connected to the internet can be attacked by intruders

7. Companies/ hire/ security consultant/ who/ analyze/ risk/ and/ provide/ security solution.

Companies hire security consultants who analyze the risks and provide security solutions

8. most/ common/ method/ protection/ be/ password access control/ encryption/ decryption systems/ firewalls.

The most commonmethods of protection are passwords for access control,encryption, decryption systems, and firewalls.

9. Virus/ can/ enter/ / PC/ file/ from/ disk/ internet/or/ bulletin board system.

Viruses can enter a PC through files from disks, the internet, or bulletin board systems

10. Remember/ update/ your/ anti-virus software /as/ often/ possible/ since/ new/ virus/ being/ created/ all/ time.

Remember also to update your anti-virus software as often as possible, since new viruses are being created all the time

### Exercise 2. Rewrite the following sentences so that they have the same meaning.

1. There are different multimedia elements on web pages.

*Web pages* have diferent multimedia elements

1. An important function of the operating system is to manage the computer’s resources.

*Managing* the computer’s resources is an important function of the operating system

1. The role of the operating system is to communicate directly with the hardware.

*Communicating* directly with the hardware is the role of the operating system.

1. The main reason for installing more memory is to allow the computer to process data faster.
2. *Allowing* the computer to process data faster is The main reason for installing more memory
3. We can store data and applications in either hard or floppy disks.

*Data and applications can be stored in either hard or flooppy disks.*