HỌC VIỆN CÔNG NGHỆ BƯU CHÍNH VIỄN THÔNG

BÀI TẬP

TIẾNG ANH

CHUYÊN NGÀNH CNTT

(Dùng cho sinh viên hệ đào tạo đại học từ xa)

Lưu hành nội bộ

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CÂU HỎI

Câu 1: Hãy đọc kỹ đoạn văn sau và trả lời câu hỏi

Throughout the ages people have sought to understand the world around them and to explain it in a systematic way. A *system* is simply a group of elements which work together to achieve a purpose. Systems can be very large, such as the system of courts and laws we call our 'legal system', or very small, such as the system involved in cleaning your teeth. Systems can occur in nature or be designed by people. The water cycle (described below) is an example of a natural system. Banking systems and computer systems are examples of systems designed by people.

Input-process-output

Processing systems accomplish a task: they take one or more *inputs* and carry out a *process* to produce one or more *outputs*. An input is something put into the system, a process is a series of' actions or changes carried out by the system, while an output is something taken from the system. All systems can be represented by the following input-process-output *(IPO)* diagram.
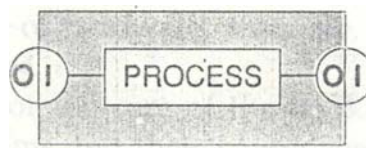
The shaded area in the diagram represents the system. The letter 'I' stands for input and the letter '0' stands for output. The input into this system is an output from another system and the output from this system is an input into another system.

To develop these ideas further we will consider three systems: coffee making the water cycle and the shop.

THE WATER CYCLE

Water circulates between the earth and the atmosphere; this is an example of a system occurring in nature. It is driven by. the heat of the sun which causes evaporation from bodies of water and transpiration from plants. The water vapour in the atmosphere forms clouds under certain conditions. When these clouds have more water vapour than they can hold, precipitation occurs and the water is returned back to the earth as rain;' hail, dew or snow. This process of moving water from the earth into the atmosphere and back to the earth is called the water cycle.

The inputs are the heat from the sun, and water from oceans, lakes, rivers and plants. The process consists of actions such as evaporation, transpiration and precipitation. The output is the circulation of the water between the earth and its atmosphere.

THE SHOP

A shop is a retail system designed by people; its purpose is to allow customers to purchase goods or items. The inputs are the goods to be sold. The process consists of actions such as

receiving goods from the warehouse, packing the goods into the shop and selling the goods at the counter. The output is the *goods* sold to the customers.
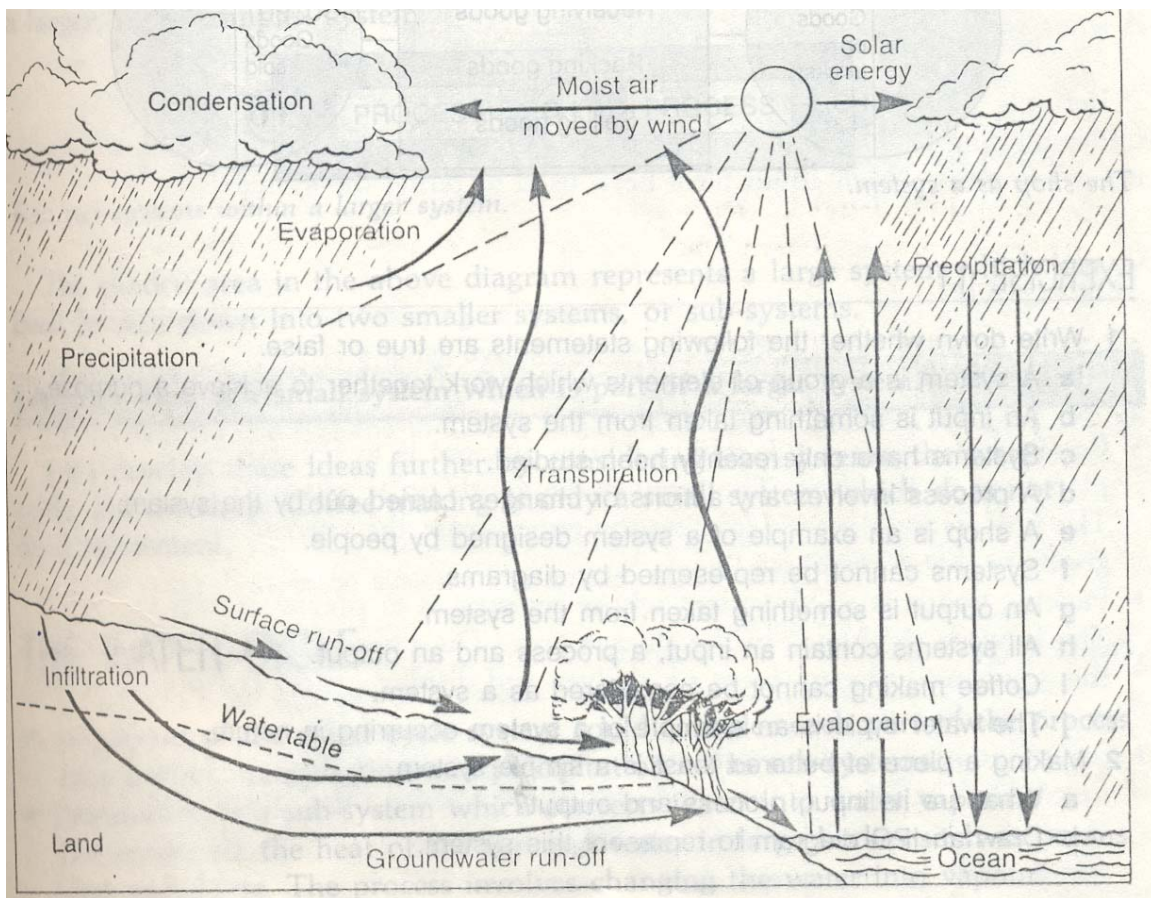
1. *Write down whether the following statements are true or false.*

    a. A system is a group of elements which work together to achieve a purpose.

    b. An input is something taken from the system.

    c. Systems have only recently been studied.

    d. A process involves any actions or changes carried out by the system.

    e. A shop is an example of a. system designed by people.

    f. Systems cannot be represented by diagrams.

    g. An output is something taken from the system.

    h. All systems contain an input, a process and an output.

    i. Coffee making cannot be considered as a system.

    j. The water cycle is an example of a system occurring in nature.

2. *Making a piece of buttered toast is a simple system.*

    a What are its input, process and output?

    b Draw an IPO diagram to represent this system.

Câu hỏi

3. *Planting a tree bought from the nursery can be considered a system.*

   a What are its input, process and output?

   b Draw an IPO diagram to represent this system.

4. *A recorded music system involves using a record, cassette or compact disc to*
   listen to music.

   a What are its input, process and output?

   b Draw an IPO diagram to represent this system.

5. *Every action we take can be considered as a system. Do you agree?*

Câu 2: Refinement and synthesis

Refining a system means analysing it in more detail and breaking it down into smaller components. Each part of the process may be considered either as a system in itself, or as a *sub-system*. A sub-system is a small system which is part of a larger system. It also contains a group of elements which work together to achieve a purpose.

Synthesis is the reverse process; it involves combining simple sub-systems into a larger, more complex system.
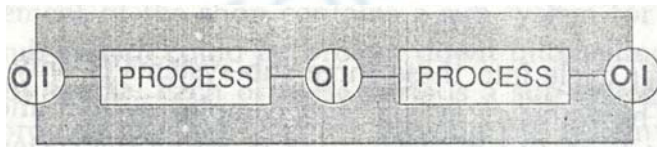
The shaded area in the above diagram represents a large system which has been broken down into two smaller systems, or sub-systems.
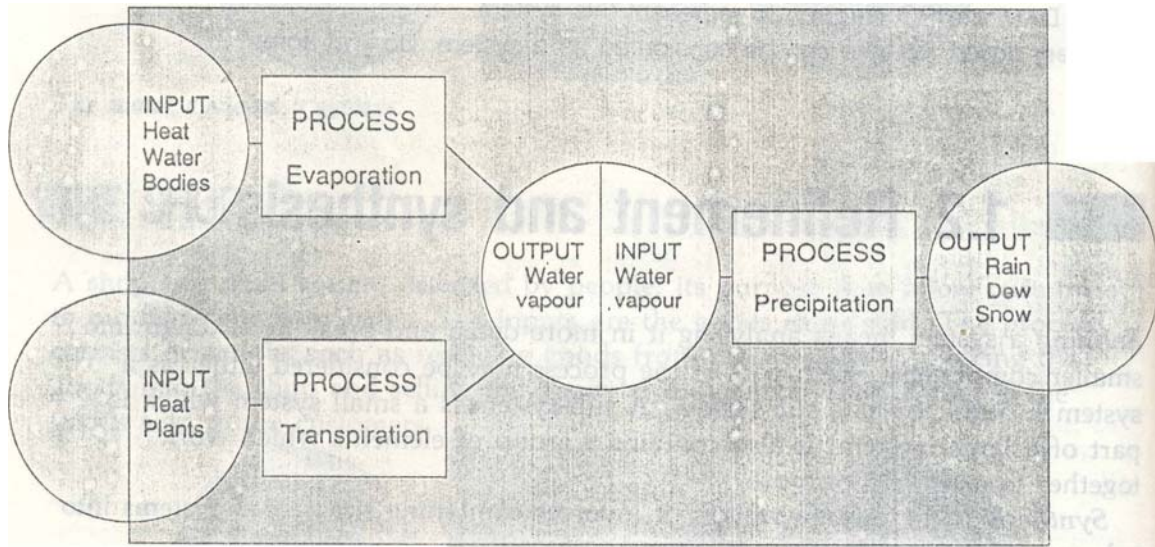
THE WATER CYCLE

A refinement of the water cycle system could consider each part of the process - evaporation, transpiration and precipitation - as sub-systems.

. Evaporation is a sub-system which converts water into water vapour. The inputs are the heat of the sun and water in large' bodies such as oceans, lakes and rivers. The process involves changing the water into vapour.The output is the water vapour.

. Transpiration is a sub-system which converts moisture in plants and other bodies into water vapour. The inputs are the heat of the sun, and plants and other bodies. The process involves changing the moisture from plants into vapour. The output is the water vapour.   .

. Precipitation is a sub-system which converts water vapour into water in the form of rain, hail, dew and snow. The input is the water vapour in the form of clouds. The process involves changing the water vapour into water. The output is rain, hail, dew and snow.

Câu hỏi

Refining the water cycle into these three sub-systems is only one way of understanding it. The water cycle is a very complex system and contains many other processes which could have been used to refine the system.
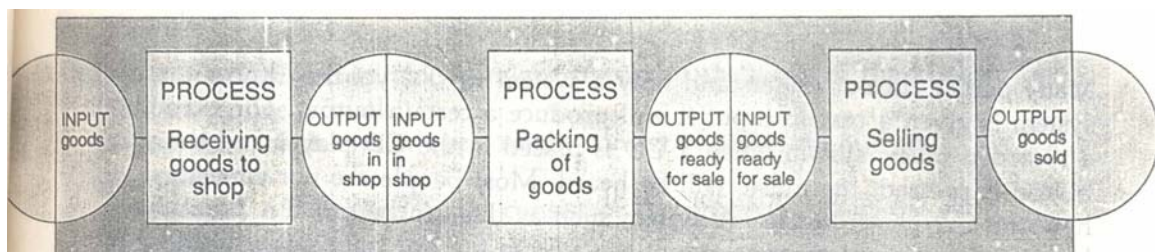
THE SHOP

A shop could be refined by considering each part of the process - receiving goods, packing goods and selling goods - as sub-systems.

. Receiving goods is a sub-system whose purpose is to prepare goods for placement in the shop. The input is the goods on trucks from the warehouse. The process involves off-loading the goods from the trucks. The output is the goods in the storage area.

. Packing goods is a sub-system whose purpose. is to prepare goods for sale. The input is the goods in the storage area. The process involves unpacking the goods and placing them on shelves and display racks. The output is the goods ready for sale.

. Selling goods is a sub-system whose purpose is to exchange the goods for cash or credit. The input is the goods ready for sale on the shelves. The process involves customers buying the goods at the counter. The output is the goods sold.

Here the refinement of the shop has involved three sub-systems all linked together so that the output from one sub-system is the input into another sub-system. This is just one way of explaining the shop as a system.

6

Systems are refined they are broken down into sub-systems, giving one level. If these sub-systems are broken down into smaller sub-systems, another level can be seen. For example, the refinement of the shop contains a sub-system for selling goods at the counter. This sub-system could be broken down into selling goods by cash and selling goods by credit. Each of these parts is a sub-system of the subsystem, and they provide another level for viewing the system of the shop.

1. Copy and complete the following sentences.

a A………………….is a small system which is part of a larger system.

b Systems can be viewed at different……………

c Combining sub-systems to form a larger system is called……………….

d A……………….is a group of elements which work together to achieve a purpose.

e An…………………is something put into the system.

f Breaking down large systems into smaller sub-systems is called……………

g The…………………….is an example of a system occurring in nature.

h A shop is an example of a system designed by……………….

i An output is something taken……………….the system.

j The………………..involves the actions carried out by the system.

2. What is a sub-system?

3. Explain the difference between, refinement and synthesis.

4. 'Systems can be viewed at different levels.' Explain this statement.

5. Refine your system for planting a tree bought from the nursery into sub-systems. List these sub-systems.

Câu 3: A system as a black box

Many people; do not understand how a system works, yet they know that if the system is given a certain input it will produce a certain output. For example, in a recorded music system when a CD is placed in the CD player and the play button is pressed, the music will be heard. Most people are not concerned with how the CD player works. A system such as this can be called a *'black box'* because the internal components of the system are not fully understood by most people. Their main concern is that the system accomplishes its task.

ENVIRONMENT

Systems work under certain physical conditions or surrounding influences which are called their *environment.* For 'example:

. the environment of coffee making consists of the shop where the coffee and milk were bought, the water board which supplies the water and the electricity commission which supplies the electricity

. the environment of the water cycle consists of our solar system

. the environment of the shop consists of the cost of the goods from the wholesaler, the transport system used by the trucks, or the amount of money the consumers have to spend.

Câu hỏi

All these factors are not controlled by the system; they are outside the system but have some influence on it.

BOUNDARY

The limit of a system is called its *boundary*. It is determined by the observer who decides which parts it takes up the system and where the boundary is drawn.

For example:

. the boundary of coffee making might consist of the walls of the kitchen where the coffee is made

. the boundary of the water cycle might consist of the earth and its atmosphere .

. the boundary of the shop might consist of the property where the shop is situated.

1. For each of the following statements, select a matching phrase from the list below.

a. A system whose internal components are not fully understood.

b. A small system which is part of a larger system.

c. Separates the system and its environment.

d .The breakdown of a large system into smaller sub-systems.

e. The physical conditions within which the system operates.

f. Something taken from the system.

g. A group of elements which work together to achieve a purpose.

h. A series of actions or changes carried out by the system.

i. Something put into the system.   '

j .The combination of sub-systems into a larger system,

     system process input sub-system

black box   refinement   output

synthesis boundary environment

2. What does the term 'black box' mean?

3. 'The boundaries of a particular system will vary.' Explain this statement.

4. Does the environment contain factors outside the system? Explain your answer.

5.Why are computer systems black boxes to most people?

6. List four systems which are black boxes to you.

Câu 4: PROCEDURES

Procedures are the set of instructions which specify what processing is to be performed, or what course of action is to take place. For example, the procedures in making coffee consist of:

. placing a teaspoon of coffee in the cup

. pouring the hot water into the cup

. pouring the right quantity of milk into the cup

. stirring..   .

Câu hỏi

The procedures need to take into account the order of the processes, such as whether the milk is poured into the cup before or after the hot water.

PROCESSOR AND RESOURCES

The processor and the resources are closely linked. The processor is whatever carries out or executes the procedures. The person making the cup of coffee is the processor since she or he performs all the above procedures.

The resources are used by the processor to perform the task. They include, anything which supports or assists the execution of the procedures, but do not include the inputs. The teaspoon used in making the cup of coffee is a resource.

1. The vowels have been omitted from these words. Write out the completed words.

a. pr _c_ss_r   f. r _s _rc_s

b. _nv_r _nm__nt   g. pr _c_d_r_s

c. sys_m   h. b_ _nd_ry

d. _np_t   i .synth_s_s

e. s_b-syst_m   j . _ _tp_t

2. Why is the system defined in terms of procedures, processor and resources?

3. What is the meaning of the following terms?

  a procedures

  b processor

 c resources

4. Why do procedures need to take into account the order of the processes?

5 .Making a piece of buttered toast is a system. What are its procedures, processor and resources?

6 . Planting a tree bought at the nursery is a system. What are its procedures, processor and resources?

Câu 5: Hierarchy charts

Just as we can refine a system into sub-systems, we can also refine a process into *sub-processes,* -also called *modules.* Each of these modules contains only one process.

We can illustrate the different levels of the process using a *hierarchy chart.* The major module is shown as the top level and it can be refined into lower level modules as more detail is required. Control passes from the top level down to the next lower module or first refinement, then to the next lower module or second refinement, and' so on. As well as containing only one process, each module should contain a single entry and a single exit.

1 Write down whether the following statements are true or false.

a. Modules are also called sub-processes.

b. Each module in a hierarchy chart can have more than one entry and exit.

c. Hierarchy charts are never changed.

d. If more detail is required in a hierarchy chart, a further refinement is necessary.

Câu hỏi

e. Hierarchy charts only illustrate the structl1re of the processes.

f .The top level of the hierarchy chart contains the major module.

g. Processors are the set of instructions which specify what processing is to be performed.

h. Resources are whatever carry out or execute the procedures. i The environment is the limit of the system.

j. A black box is a system whose internal components are not fully understood.

2 What is the purpose of a hierarchy chart?

3 Hierarchy charts use a top-down method. Explain the meaning of this.

4 What is a module in a hierarchy chart? .

5 The first level in a hierarchy chart is called the top level. What is the next lower level called?

6 Making a piece of buttered toast 'is a system. Draw a hierarchy chart to illustrate the process for toasting the bread.

7 The recorded music system involves using a record, cassette or compact disc to listen to music. Draw a hierarchy chart to illustrate the process of selecting music

Câu 6: IPO charts

An input-process-output (IPO) chart is another method of describing a system. It specifies the inputs put into the system, the processing to be carried out by the system and the outputs taken from the system. It consists of three columns with the headings input, process and output. IPO charts can also be drawn for any sub-system. For example, IPO charts could be drawn for the evaporation, transpiration and precipitation sub-systems of the water cycle. IPO charts provide a quick and efficient way of describing a system.

1. Complete the following sentences

a. ………… charts are a way of describing a system by specifying inputs, processes and outputs.

b. Hierarchy charts are used to show the levels of refinement of a …………..

c. Procedures are the set of…………… which specify what processing is to be performed.

d. Resources are used by the ………………………..to perform its task.

e. IPO charts can be drawn for any………………………

f .Processes are broken down into smaller components called………………..

g. A………………is whatever carries out or executes the procedures.

h. A hierarchy chart passes control from the………………………..level down to the first refinement.

i . A………………is a system whose internal components are not fully understood.

j. The………………..is the physical conditions or surrounding influences within which the system operates.

2. Describe an IPO chart.

Câu hỏi

3. Why are IPO charts a good way to describe a system?

4. Making a piece of buttered toast is a system. Draw an IPO chart to describe this system.

5. Planting a tree bought at the nursery is a system. Draw an IPO chart to describe this system.

6. The recorded music system involves using a record, cassette or compact disc to listen to music. Draw an IPO chart to describe this system.

Câu 7: Specifying procedures

Procedures are the set of instructions which specify what processing is to be performed. These procedures are essential if the system is going to achieve its purpose and are stated in the form of an *algorithm*. An algorithm is a series of steps which, when performed correctly, will solve a problem in a finite time. Algorithms can be used to solve all kinds of problems. Even simple actions such as making a phone call, catching a train or running a shower can be represented as algorithms.

The algorithm to make a phone call might be:

1. Pick up the phone receiver.

2. Dial the correct phone number

3. Deliver the message

4. Hang up the phone receiver. ,

The algorithm presents a solution in a finite number of steps. The algorithm to catch a train takes five steps. For the algorithm to work in all situations, the steps must be performed in a particular order and the algorithm must describe every possibility that may occur.

Before the algorithm can be written, the problem must be fully understood. After the algorithm has been written it needs to be tested. If the results are unsatisfactory it is modified or discarded. There is usually more than one correct algorithm to any problem and the best algorithm is a matter of personal choice.

1 Write down whether the following statements are true or false.

a. Algorithms contain an infinite number of steps.

b. Algorithms always need to be tested.

c. A problem may be solved by more than one correct algorithm.

d. Procedures are not stated in the form of algorithms.

e. We use algorithms all the time.

f. Unsatisfactory algorithms are always discarded.

g. The steps in an algorithm are sometimes repeated.

h. Algorithms do not allow for decisions to be made.

2. What is an algorithm?

3. Explain the difference between procedures and an algorithm.

4. What needs to be done if an algorithm is unsatisfactory?

Câu 8: Algorithms

Algorithms are used to enable computers to 'solve particular problems and perform a variety of tasks. This involves a number of stages: first, the problem is analysed to determine its essential features. Secondly, the algorithm is written to solve the problem. Thirdly, the algorithm is changed into a *programming language* which can be understood by the computer. .

In order for the algorithm to be easily changed into a programming language, it needs to be written in a particular form. Algorithms can be expressed in a number of forms including *English prose pseudocode* and *flowcharts.*

ENGLISH PROSE

English prose is a description of the steps required to solve the problem in plain English without a structure. English prose is the simplest method of algorithm description, but since there are no formal rules it is difficult to apply it to complex problems.

PSEUDOCODE

Pseudocode is a limited form of English which relies on indenting lines and using keywords to highlight the structure of the algorithm.

It is written in text form which allows it to be easily modified with a word processor.

Different standards of psuedocode have been established for different applications. The basic keywords are grouped together in pairs. The most common keywords are shown in the table on the following page.

Structured English is another method of describing algorithms which is very similar to pseudocode. It does not use any keywords, but consists of short statements with indentation to show the structure.

FLOWCHARTS

Flowcharts are a way of describing algorithms in pictorial form. They are often favoured since it is easier to follow the structure in a picture than in words; however, it is very easy to draw a flowchart which is complex and difficult to change into programming language.

The basic elements of a flowchart are a set of symbols (containing messages) and interconnecting lines with arrows: A set of standards for flowcharts has been established for a number of different. applications. The four most commonly used symbols are shown in the following table.

1. For each of the following statements, select a matching phrase from the list below.

 a. Lines and arrows used in flowcharts.

 b. An algorithm which uses a limited form of 'English and relies on indentation and keywords.

 c. A symbol used in flowcharts to indicate a selection.

 d. An algorithm in pictorial form which uses a set of symbols and flowlines.

 e. An algorithm which uses an English description of the steps required to solve the problem.

 f. A symbol used in 'flowcharts to indicate the beginning or the end.

 g. Used to show the structure in pseudocode.

Câu hỏi

h. Algorithms are converted into this language so that they can be understood by the computer.

i. A series of steps which, when performed correctly; will solve a problem in a finite time. flowlines terminal indentation

algorithm   flowchart   programming

pseudocode   decision   English prose

2. Briefly describe the following methods of algorithm description:

a. English prose

b. flowcharts

c. pseudocode.

3 .Why are flowcharts often favoured as a method of describing algorithms?

4. When is it necessary for flowlines to have arrows?

5.Write down two advantages pseudocode has over flowcharts.

6 .Why are keywords high lighted in pseudocode?

7. What is the purpose of indenting lines in structured English and pseudocode?

8. Write algorithms in English prose, pseudocode and as a flowchart for the following:

a making a cheese sandwich

b making corn flakes for breakfast.

Câu 9: Control Structures

Control structures are used in an algorithm to control the flow of logic; that is, they indicate the order in which the statements are carried out. Algorithms are composed of three basic control structures: *sequence/ selection* and *loop.*

SEQUENCE

Sequence is where the steps are executed' one after another. Each statement is performed only once and is then fol1owed by the next statement in order.

Example: Washing your hands

13
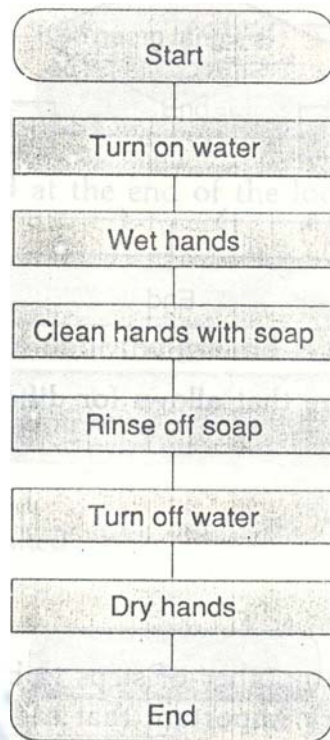
SELECTION

Selection allows for different steps to be carried out in different conditions. There are many situations when the normal sequence of one step: followed by the next is not appropriate. Using selection, a condition such as a question can be given and, depending on the answer, different steps can be followed.

Example: Approaching a set of traffic lights

English prose

　　If the signal is green, pass through the traffic lights; otherwise stop the vehicle.

Pseudocode
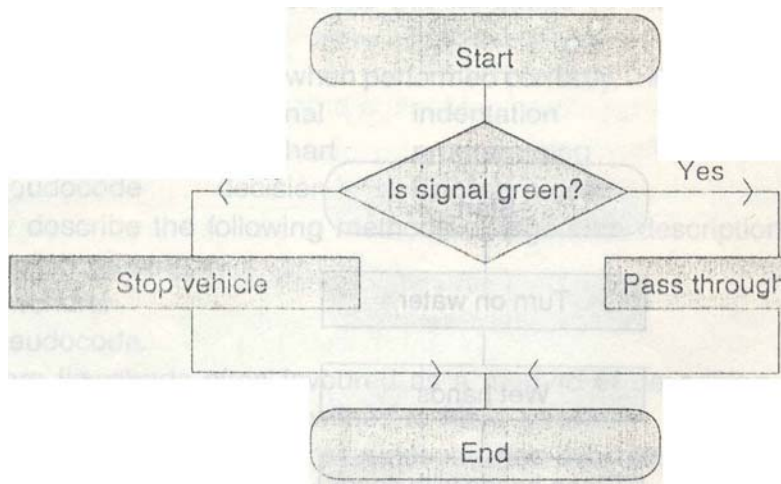
```
Begin
    if signal is green
        then pass through, traffic lights
        else stop the vehicle
    end if
```

14

Câu hỏi

LOOP

A loop or repetition allows a number of steps to be repeated until some condition is satisfied. It is very important that each loop includes a condition that will stop the loop going on forever.

If the condition is checked at the beginning of the loop, it is called a pre-test loop or guarded loop.

Example: Safety procedure for traveling in a car

English prose

Keep seat belts on while you are' traveling in the car.

Pseudocode

```
Begin
        While car is traveling
                Seat belts on
        End while
End
```

If the condition is checked at the end of the loop, it is called a post-test loop or unguarded, loop.

Example: Watering plants

English prose

Keep watering the plants until the ground is soaked.

Pseudocode

```
Begin
Repeat
            . Water plants
        Until ground is soaked
    End
```

1) The vowels have been omitted from these words. Write out the completed words

a. s_q _ _ nc _   b. fl _ wch _ rt   c. s _ l _ ct _ _ n

15

Câu hỏi

d. r _ p _ t _ t _ _ n   e. g _ _ rd _ d l _ _ p   f. ps _ _ d _ c _ d _

g. c _ ntr _ l str _ ct _ r _ s   h. _ ngl _ sh pr _ s _   i. _ ng _ _ rd _ d l _ _ p

j. fl _ wl _ n _ s

2. What are control structures used for?

3. Explain the difference between the following control structures:

sequence, selection and loop

Câu 10: Review Exercise 1

1. Copy and complete the following sentences.

a. A …………………… is a system whose internal components are not fully understood.

b. The boundary is the - of a system.

c. Procedures are a set of ……… which specify what processing is to be performed.

d. ……………….. charts are used to show the levels of refinement of a process.

e. A system is a group of elements which work together to achieve a

f. Refinement breaks down…………… systems into smaller sub-systems.

g. Output is something taken ……………….. the system.

h. The …………… is the physical conditions or surrounding influences within which the   system operates.

i. …… charts are a way of describing a system by specifying inputs, processes and outputs.

j. Resources are used by the …………….. to perform its task.

k. A …………… is a small system which is part' of a larger system.

l. A process is a series of ……………….. carried out by the system.

m. Control structures indicate the ....in which the statements   are executed.

n …… is a control structure that allows for different steps to be carried out in different conditions.

o. A flowchart describes an algorithm in ……….. and flowlines.

p. An algorithm is a series of…………………which, when performed correctly, will solve a problem in a finite time.   .

q……………………describes the steps in an algorithm using plain English.

r. A loop is a control structure that allows a number of steps to be   until   some condition is   satisfied.

s. Pseudocode describes an algorithm using a limited form of English. It relies on indentation and the use of

t . …………..is a control structure in which the steps are executed one after another.

2. Turning on the TV and watching your favourite TV show can be considered as a

16

system.

     a Construct an IPO chart for this system.

     b List any procedures, resources and processors used in the process.

     c What is the system's boundary and environment?

3. Why do systems undergo refinement?

4. What is the difference between the boundary of a system and its environment?

5. How are the procedures, processor and resources related in a system?

6. Explain the difference between hierarchy charts and IPO charts.

7. Why are algorithms written?

8. List three methods of describing an algorithm.

9. Describe the three basic control structures.

Câu 11: A computer system

     A computer can be considered as a system made up of *hardware* and *software,* which work together, processing *data* to achieve a purpose. Computer hardware refers to the parts of the computer system that you can see and hold, such as the keyboard, monitor, disk drive or printer. Computer software refers to the computer programs or instructions which direct the hardware to perform particular tasks.

     Computer systems can be viewed as five co-operating sub-systems. Input - entering data into the system for processing.

     Output - presenting data/information which can be used outside the system

     Processing - changing data to produce information

     Storage - retaining data for later use by the system.

     Control - coordinating the operations of the input, processing, output and storage sub-systems.

     These sub-systems work together. Data is entered using an input device.

     It is then changed in some way to produce information, which is presented on an output device. If necessary, the data/information can be retained on a storage device for later use. To process the data the hardware needs dear instructions, or software, which tell it what to do.

1. Copy and complete the following sentences.

    a. Output involves………….. the data/information.

    b. Computers can process information at very ………. speed.

    c. Processing involves   …………. data to produce information.

    d. Storage involves……………. data for later use.

   e. The instructions given to a computer so that it can perform a particular task are called its ………………..

     f. ……………. involves co-ordinating the operations of the input, processing, output and storage sub-systems.

    g. Parts of the computer system that you can see and touch are called its…………..

Câu hỏi

    h. A computer system is made up of hardware and software which 'work together,

processing data to achieve a……………

    i.   involves entering data into the system for processing.

    j. The computer software refers to the computer program or   which

direct the hardware to perform particular tasks.

2. What is a computer?

3. What is the purpose of a computer system?

Câu 12: Input

Input involves entering data into the system for processing. The data is taken from the environment and changed into a suitable form to be processed. There are many types of input devices used for different purposes.

The two most common input devices are the *keyboard* and the mouse.

THE KEYBOARD

A computer keyboard looks similar to a typewriter, with a number of extra keys for special purposes. Data is entered when one or more keys are pressed to represent a character or special function. If a key representing a character is pressed, the character appears where the blinking rectangle, or *cursor,* is on the screen. The cursor indicates the user's current position on the screen.

The keyboard is the main device that you use to communicate with your computer.

Some of the special keys include:

Enter or Return- used to inform the computer to act on an instruction

(command) or to move the cursor to a new line.

- allows you to stop the execution of a command.

- used in combination with other keys to perform

special tasks.

- used in a similar way to the control key (not found

on all keyboards).

THE MOUSE

A mouse is a pointing device that can be used to point the cursor at the desired position on the screen. It enables the -user to move the cursor to different parts of the screen very quickly. A button on the mouse allows the user to select a character or command from the screen display.

Other common input devices include the light pen, joystick, scanner, touch screen and trackball.

1. Write down whether the following statements are true or false..

a. The mouse does not allow the user to move the cursor quickly.

b. Input devices take data from the computer system.

c. The cursor indicates the user's current position on the screen.

d. Data can be entered into the computer using a keyboard.

e. The mouse is part of the computer's software.

  f .Computers do not have any intelligence.

18

g. The software follows instructions contained in a computer's hardware which command it to perform a particular task.

h. The Escape key allows you to stop the execution of a command.

i .The Enter or Return key is used in combination with another key to perform a special task.

j. The Backspace key deletes the character immediately to the left of the cursor.

2 .Make a drawing of the keyboard used on the computers at school. Mark the standard typewriter keys and the special computer keys. Try pressing the various keys to learn what they do.   .

3 .What is the long key across the bottom used for?

Câu 13: Output

Output involves presenting data/information which can be used outside the system. Computers present data to users as text (letters and numbers) or graphics (pictures), or in the form of computer-generated speech called voice synthesis. Many kinds of output devices can be used to present data.The two most common output devices are the *monitor* and the *printer.*

The monitor

The monitor is the most popular output device. It is similar to a television screen, but superior in clarity. The monitor is known by several names which include the screen, CRT (cathode ray tube) or VDU (visual display unit). There are many types of monitors and they can be either monochrome or colour. Monochrome refers to black on white or, in some cases, amber or green on black.

Many laptop computers and portable computers use a liquid crystal display (LCD), the same type of display as on digital watches and calculators. This type of display is very light and requires less power than a CRT, allowing it to be run on batteries.

The printer

A allows data to be presented on paper as a 'hard copy' or printout. There are many different types of printers, the main types being dot-matrix, ink-jet and laser. The dot-matrix printer is the cheapest and most popular. A printer must have power, be connected to the computer and have the paper inserted correctly. The computer's software must be instructed about the type of printer being used.

1. For each of the following statements, select a matching word or phrase from the list below.

a. Devices used to enter data into a computer system for processing.

b. Screen used by many laptop computers.

c. A type of monitor that comes in black and white, black and amber or black and green.

d. Devices used to present data.

e. An input device which consists of a series of keys which produce characters when pressed.

f. The physical components of a computer system.

g. The most popular type of printer.

Câu hỏi

h. A key on a keyboard used to inform the computer to act on an instruction.

i .A key on a keyboard that allows you to stop the execution of a command.

dot matrix	output	LCD
Enter	monochrome	input
keyboard	hardware	Escape

2. Why are LCD screens used on laptop computers instead of CRT monitors?

3. What is the main difference between a computer monitor and a television set in presentation of data?

4. In what forms do computers present data to users?

5. What would you check if a printer was not working correctly?

Câu 14: Processing

Processing changes data to produce information. Data are the raw facts put into the computer system by an input device. When this data is processed or ordered and given some meaning, it is called information. This information is then presented for use outside the system by an output device.

The processing in a computer is carried out by the *central processing unit* or *CPU*. It is made up of millions of electrical components and is the control centre of the entire computer system. The electrical components are located on a thin silicon wafer called a *silicon chip* or *integrated circuit.* The CPU in a microcomputer is referred to as a *microprocessor* and is contained on one silicon chip.

1. Vowels have been omitted from these words. Write out the completed words.

a. s-l-c-n   ch-p   f. –nt-gr–t–d c-rc- -t

b. m-cr -_pr-c-ss-r   g. l-pt-p

c. m- n- t - r   h. d-t-

d. -nf - rm-t- -n   i. d-v-c-s

e. pr-c-ss   j. – nstr - ct- -n

2. What does the central processing unit do?

3. How is data changed into information?

4. Microprocessors are being used in many different ways. Write down five pieces of equipment. in which a microprocessor is used.

5. If possible, under teacher supervision, examine the internal parts of the school's computer. Find the CPU.

Câu 15: Storage

Storage involves retaining data for later output or processing by the system. Data can be stored for later processing in *primary storage* or stored for later use.

Primary storage, or main memory, is the computer's internal data storage area. It is directly linked to the CPU and stores data before and after it is processed. The unit of measurement of storage is the *byte* and it represents a single character, such as a letter, a number, a punctuation