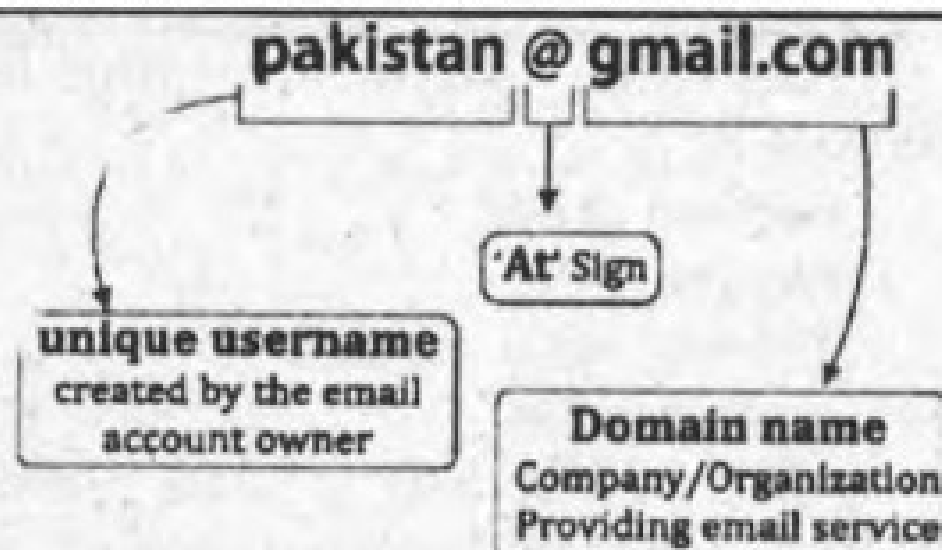


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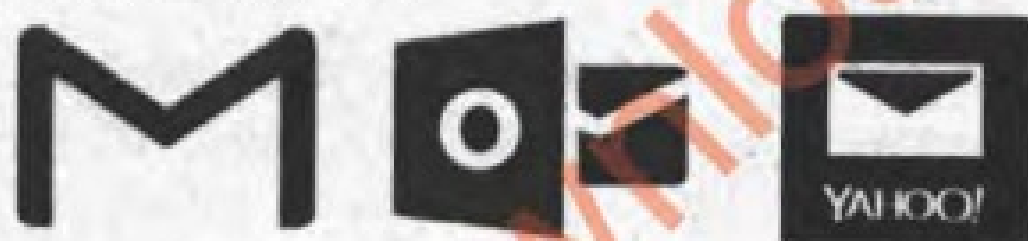


Q. Define slide transition?

Answer: Slide transition effects control how a slide appears during an onscreen slide show. Slides can appear in pieces, in strips, or all at once. You can control the speed and method with which the slides advance during a presentation.

Q. What is ESP?

Answer: ESP stands for Email Service Provider is a company or an organization that offers a service to send, receive and manage email messages. Most popular ESPs are gmail.com, yahoo.com, hotmail.com, etc.



Q. List any two email protocols.

Answer: Following protocols are used for the sake of sending/accessing emails:

- SMTP (Simple Mail Transfer Protocol)
- POP3 (Post Office Protocol 3)

Q. Define web page.

Answer: A web page is a document on the World Wide Web and use a special format called hypertext. It may contain words, graphics, videos and links to other web pages.

Q. Define web site.

Answer: A website is a collection of related web pages. It contains a number of documents and files.



Q. Define authentication.

Answer: Authentication is the process to identify a user who wants to access a system/network or a device. It can be done by PIN, biometric, face recognition, finger prints etc.

Q. What is meant by sign out an e-mail account?

Answer: Sign out means to close an e-mail account. A user can sign out of Yahoo, click on your name then click on the sign out button. Yahoo mail will log out of the system.



Unit 3

ALGORITHMIC THINKING AND PROBLEM SOLVING

Solution to Exercise

❖ **Multiple choice questions:**

1. When a problem is poorly defined, it means _____.
 - a. it is not properly understood and identified
 - b. an acceptable solution could not be designed
 - c. an acceptable solution could not be developed
 - d. all of above

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2. What should be written in the problem definition?

- a. Solution b. Situation
- c. Need d. Behavior

3. Once a solution of a problem is implemented, how are you going to ensure it is a correct solution? Through _____.

- a. programming language
- b. feedback
- c. problem decomposition
- d. input

4. A key to good implementation is _____.

- a. good problem analysis
- b. good decision c. feedback
- d. all of the above

5. Flowchart is the best way to depict _____.

- a. problem background
- b. proposed solution
- c. evaluation
- d. all of the above

6. An algorithm takes _____ and return _____.

- a. input, output
- b. problem, solution
- c. solution, problem
- d. parameter, sequence of action

7. The first step of problem analysis is _____.

- a. problem decomposition
- b. problem identification
- c. problem solution
- d. problem design

8. Breaking a complex problem down into smaller problems and solving each one individually is called _____.

- a. decomposition b. abstraction
- c. programming
- d. algorithmic thinking

9. Algorithm steps are to be followed in _____:

- a. defined order
- b. random order
- c. depends upon scenario
- d. reverse order

10. The concise and accurate words that both relate your problem and lead to a solution are _____ called.

- a. Statement of input
- b. Statement of output
- c. Statement of the problem
- d. None of these

❖ Short response questions:

Q. 1: Why do we need to understand the problem area?

Answer: The problem area refers to the entire situation where one sees a possible need for problem-solving. Such issues might belong to the problems currently existing in an organizational setting that need to be solved. That's why we need to understand the problem area to know about the possible need for problem-solving.

Q. 2: How to identify the problem?

Answer: Identify the root cause of the problem by collecting information. There are number of ways to identify the problem such as through brainstorming, discussions and many more. After understanding and identifying a problem. The problem is stated in a clear and precise way and typically it is written in the context of need. For this purpose, you may write a detailed problem statement.



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Q. 3: If the problem identified is too big to be fixed all at once, what mechanism could help you to better solve the problem?

Answer: Sometimes, even when you understand what is the problem, it may be too big to fix the problem all at once. In this situation,

dividing the problem into small and manageable components

could be a useful trick not only to better

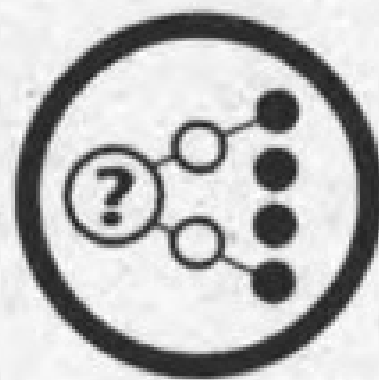
understand the problem but also to provide a better solution. So, in this situation

decomposing a problem is the best mechanism to better solve the problem.

Q. 4: Can we have more than one decision symbols in flow charts?

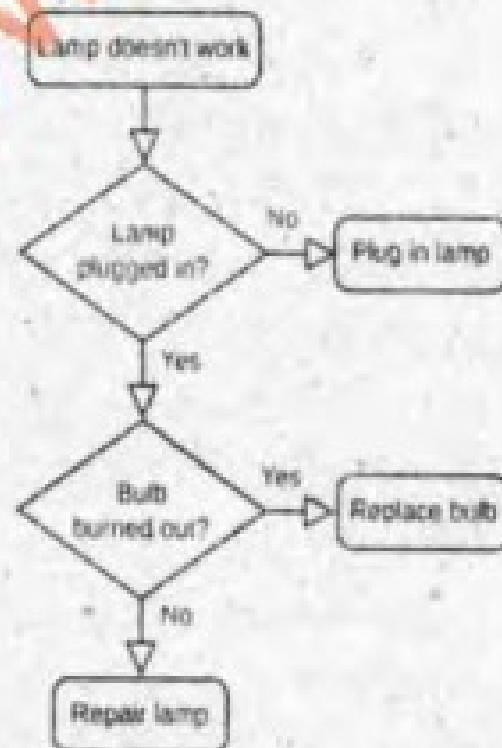
Answer: Yes, we may have more than one decision symbols in flow charts. It's depends upon the situation and nature of the problem.

Let's see the following problem in which we have two decision symbols in flow chart.



PROBLEM DECOMPOSITION

Breaking a complex problem down into smaller problems and solving each one individually is called



Q. 5: Differentiate between a flow chart and an algorithm.

Answer:

Flowchart	Algorithm
A flowchart is a graphical representation of the steps a program takes to process data. In this, we can use several geometric patterns to illustrate the numerous actions the program carries out. Example:	An algorithm is a procedure or set of rules that defines how a program is to be executed. It is a logical step-by-step approach for solving problems. Example: BEGIN input hours input rate pay = hours * rate print pay END

Q. 6: Write down an algorithm for adding two numbers.

Answer: Algorithm for adding two numbers:

Step 1: Start

Step 2: Declare variables num1, num2 and sum.

Step 3: Read values for num1, num2.

Step 4: Add num1 and num2 and assign the result to a variable sum.

Step 5: Display sum

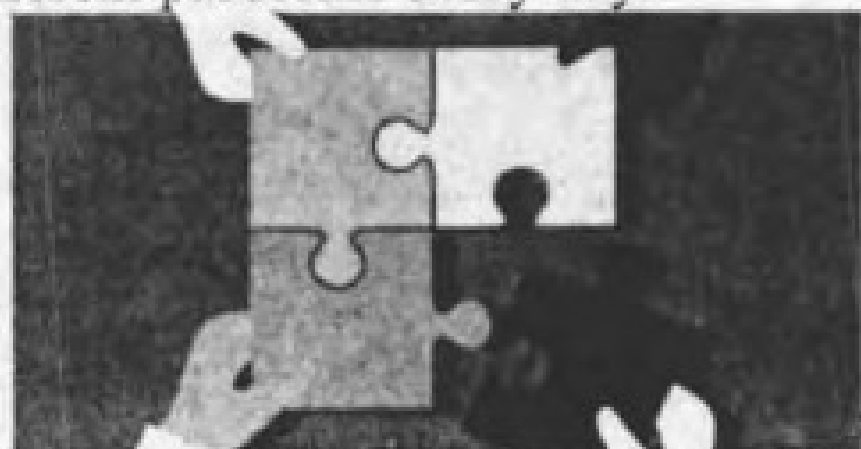
Step 6: Stop

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Some Extra Questions/Answers

Q. Define problem-solving.

Answer: Problem-solving is a process of identifying a problem and finding its best solution. Every person faces different problems every day.



Q. Write down the steps of problem-solving process.

Answer: For solving a problem, a six-step process is used and these steps are followed in sequence. The steps are as follows:



Q. Define algorithmic thinking.

Answer: The algorithm is a sequence of steps to solve the problem in precise and systematic way. Algorithmic thinking is the process used when creating the ordered steps of an algorithm.



Q. What is meant by problem analysis?

Answer: Problem analysis therefore involves identifying the overriding problem and establishing the causes and effects related to that problem. A key element of this analysis will ensure that "root causes," not just the symptoms of the problem, are identified and subsequently addressed in the project design.

Q. What are different symbol of flowcharting?

Answer: There are following symbols of flowcharting:



Q. Write down the features of flowchart.

Answer: There are following features of flowchart:

- It is an easy method of communication.
- It is independent of a programming language.
- It is the key to correct programming.
- It helps to plan and design a new system.
- It clearly indicates the task to be performed at each level.

Q. Write down the benefits of algorithmic thinking.

Answer:

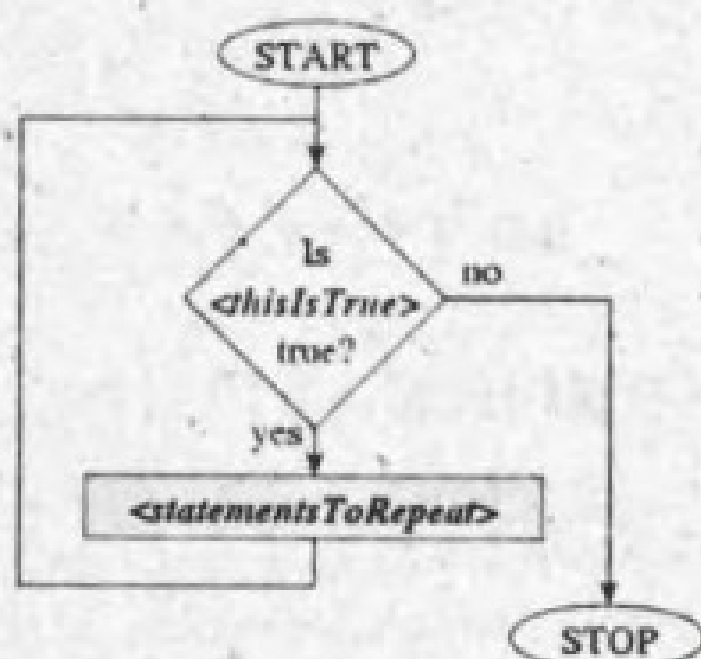
- An algorithm uses a definite procedure.

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- It is independent because it is not dependent on any language.
- Every step has its own logical sequence.
- It is easy to find and remove errors.

Q. What is meant by repetition?

Answer: Repetition refers to the act or an instance of doing one thing again and again. However, there must be some instance or event where this repeating activity stops.

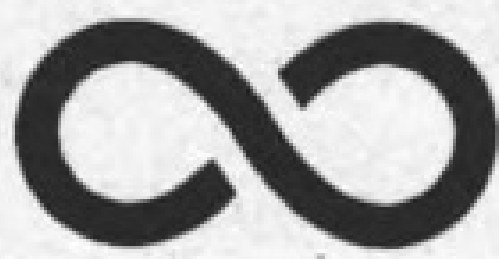


Q. What are the different types of loops?

Answer: Finite loop and Infinite loop

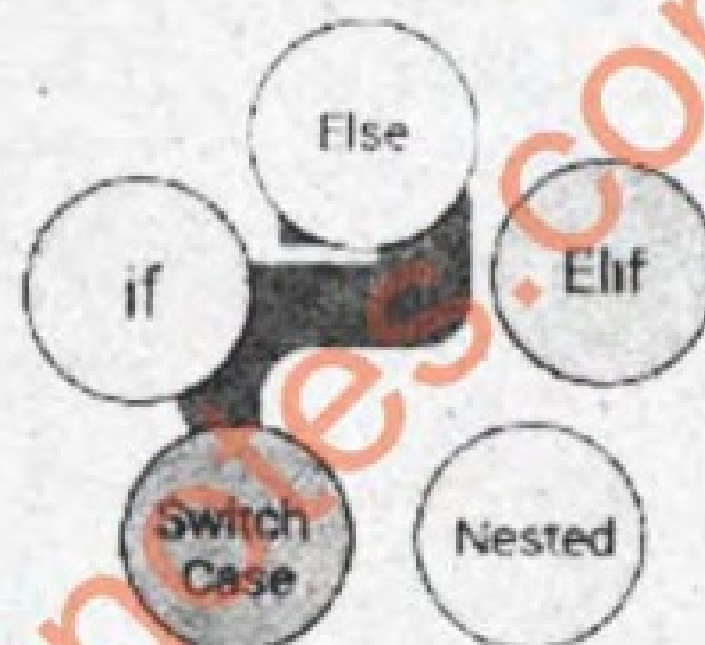
Q. Differentiate between a finite loop and an infinite loop?

Answer:

Finite Loop	Infinite Loop
Finite loops of the Repeat class execute their body a fixed number of times.	An infinite loop is a sequence of instructions that, as written, will continue endlessly, unless an external intervention occurs.
	

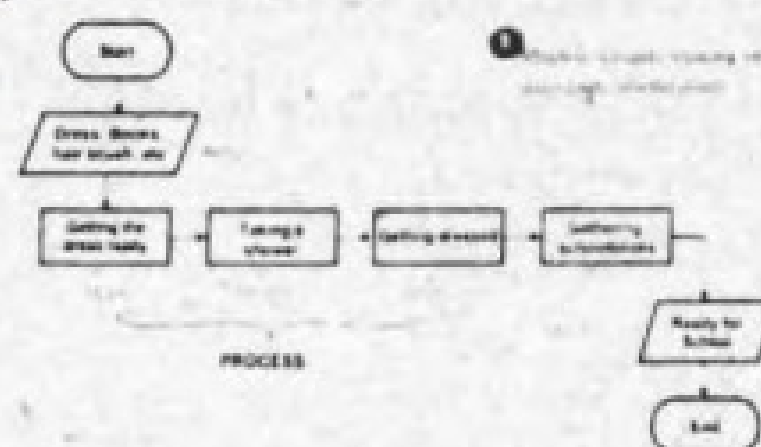
Q. Define conditional statement.

Answer: Conditional statements are features of programming languages that tell the computer to execute certain actions, provided certain conditions are met.



Q. Draw a flowchart for a child getting ready for school.

Answer: Flowchart for a child getting ready for school:



Q. Draw a flowchart for multiply two number.

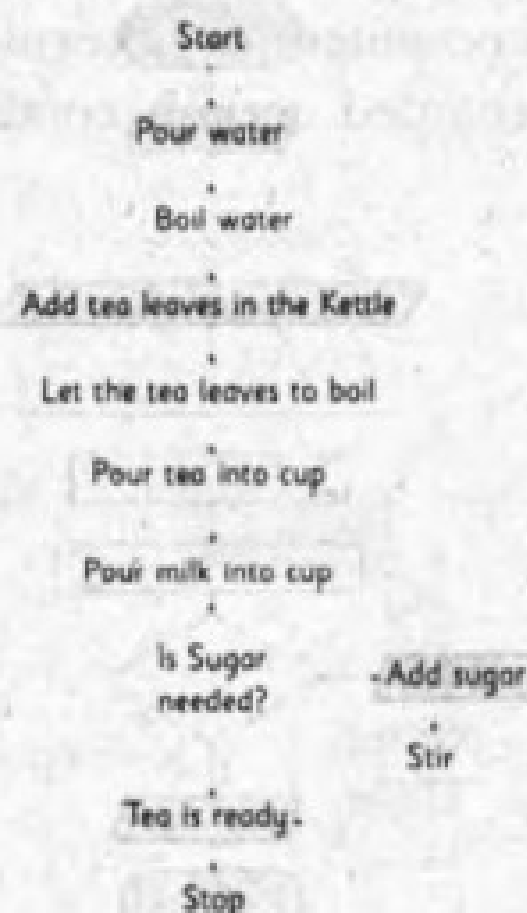
Answer:



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Q. Draw a flowchart to make a cup of tea.

Answer:

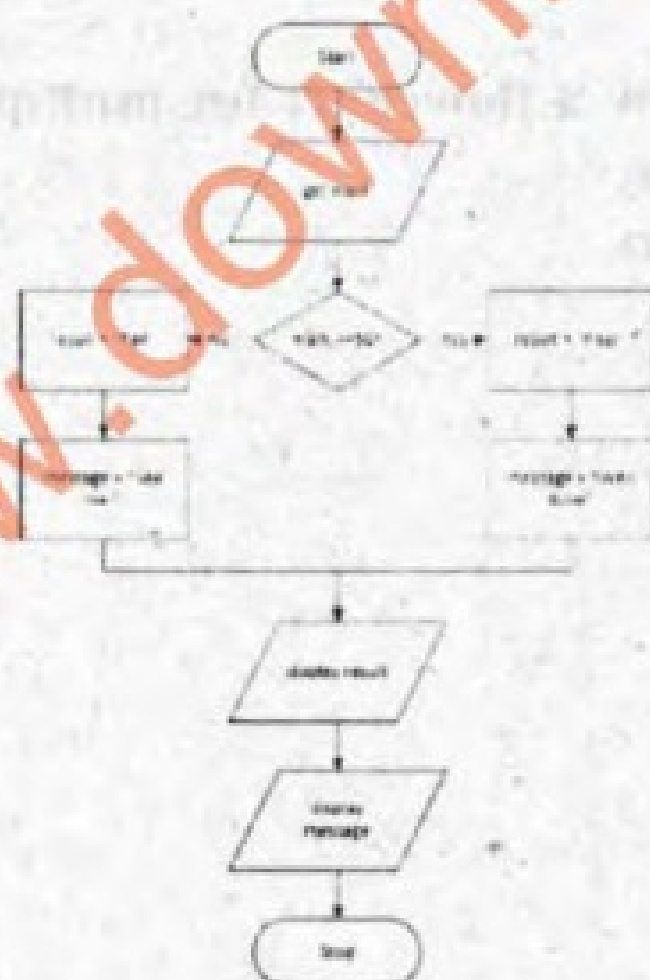


Q. Draw a flowchart for the given situation for pass and fail remarks on the basis of obtained marks.

Grading Criteria

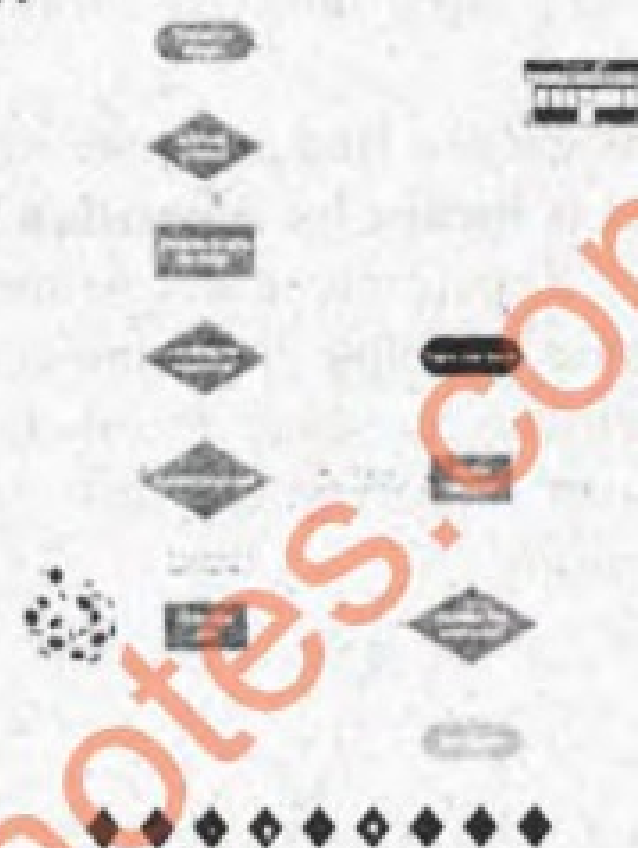
Marks obtained	Remarks
50% or more	Pass
Less Than 50%	Fail

Answer:



Q. Draw a flowchart "What to Eat for Lunch on Sunday"?

Answer:



Unit 4

PROGRAMMING

Solution to Exercise

❖ Short response questions:

Q. 1: How is information stored on computer?

Answer: All data stored on storage media, can be converted to a string of bits, otherwise known as binary digits. These binary digits have a value of 1 or 0, and the strings can make up photos, documents, audio and video. A byte is the most common unit of storage and is equal to 8 bits.

For example, Photographs are converted to a set of numbers that indicate the location, color and brightness of each pixel. Whereas convention numbers use ten digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9), binary numbers use two digits to represent all possible values. The