

# Algorithms MCQ Questions And Answers

This section focuses on "Algorithms" in Data Structures. These Multiple Choice Questions (MCQ) should be practiced to improve the Data Structure skills required for various interviews (campus interviews, walk-in interviews, company interviews), placements, entrance exams and other competitive examinations.

1. \_\_\_\_\_ is a step-by-step procedure, which defines a set of instructions to be executed in a certain order to get the desired output.

- A. Code
- B. Algorithm
- C. Program
- D. All of the above

[View Answer](#)

Ans : B

Explanation: Algorithm is a step-by-step procedure, which defines a set of instructions to be executed in a certain order to get the desired output.

2. Which of the following are characteristics of an algorithm?

- A. Algorithm should be clear
- B. Algorithm should be unambiguous
- C. Algorithms must terminate after a finite number of steps
- D. All of the above

[View Answer](#)

Ans : D

Explanation: All of the above are Characteristics of an Algorithm

3. Not all procedures can be called an algorithm

- A. TRUE
- B. FALSE
- C. Can be true or false

D. Can not say

View Answer

Ans : A

Explanation: True, Not all procedures can be called an algorithm.

4. An algorithm should have \_\_\_\_\_ well-defined inputs.

A. 0

B. 1

C. 0 or more

D. 1 or more

View Answer

Ans : C

Explanation: An algorithm should have 0 or more well-defined inputs.

5. An algorithm should have \_\_\_\_\_ well-defined outputs

A. 0

B. 1

C. 0 or more

D. 1 or more

View Answer

Ans : D

Explanation: An algorithm should have 1 or more well-defined outputs, and should match the desired output.

6. Which of the following is a theoretical analysis of an algorithm?

A. Posterior Analysis

B. Priori Analysis

C. Simple Analysis

D. Preori Analysis

View Answer

Ans : B

Explanation: A Priori Analysis : This is a theoretical analysis of an algorithm. Efficiency of an algorithm is measured by assuming that all other factors, for example, processor speed, are constant and have no effect on the implementation.

7. \_\_\_\_\_ is measured by counting the number of key operations such as comparisons in the sorting algorithm.

- A. Space
- B. Lines
- C. Time
- D. None of the above

View Answer

Ans : C

Explanation: Time is measured by counting the number of key operations such as comparisons in the sorting algorithm.

8. The complexity of an algorithm  $f(n)$  gives the running time and/or the storage space required by the algorithm in terms of  $n$  as the size of input data.

- A. Yes
- B. No
- C. Can be yes or no
- D. Can not say

View Answer

Ans : A

Explanation: Yes, The complexity of an algorithm  $f(n)$  gives the running time and/or the storage space required by the algorithm in terms of  $n$  as the size of input data.

9. The space required by an algorithm is equal to the sum of \_\_\_\_\_ components.

- A. 1
- B. 2
- C. 3
- D. 4

View Answer

Ans : B

Explanation: The space required by an algorithm is equal to the sum of the following two components : fixed part and variable part.

10. Space complexity  $S(P)$  of any algorithm  $P$  is  $S(P) = C + SP(I)$ , where  $C$  is the?

- A. fixed part
- B. variable part
- C. space complexity
- D. None of the above

[View Answer](#)

Ans : A

Explanation: Space complexity  $S(P)$  of any algorithm  $P$  is  $S(P) = C + SP(I)$ , where  $C$  is the fixed part and  $S(I)$  is the variable part of the algorithm, which depends on instance characteristic  $I$ .

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