

Stack Data Structure - Multiple Choice Questions

Total Questions: 10

Format: Multiple Choice

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Question 1

What does LIFO stand for in the context of a stack data structure?

- a) Linear Input First Output
- b) Last Input First Output
- c) Last In First Out
- d) Linear In First Out

Correct Answer: c) Last In First Out

Question 2

Which of the following operations is NOT a basic stack operation?

- a) Push
- b) Pop
- c) Peek
- d) Shift

Correct Answer: d) Shift

Question 3

What is the time complexity of the push operation in a stack implemented using an array?

- a) $O(n)$
- b) $O(\log n)$
- c) $O(1)$
- d) $O(n^2)$

Correct Answer: c) $O(1)$

Question 4

In a stack, the process of inserting an element at the top is called:

- a) Pop
- b) Push
- c) Peek
- d) Insert

Correct Answer: b) Push

Question 5

What happens when you try to pop an element from an empty stack?

- a) It returns null
- b) It returns zero
- c) Stack underflow occurs
- d) It returns the last element pushed

Correct Answer: c) Stack underflow occurs

Question 6

Which data structure can be used to implement a stack?

- a) Array only
- b) Linked List only
- c) Both Array and Linked List
- d) Queue only

Correct Answer: c) Both Array and Linked List

Question 7

In a stack with elements [1, 2, 3, 4, 5] (where 5 is at the top), what element will be removed first when pop() is called?

- a) 1
- b) 2
- c) 5
- d) 4

Correct Answer: c) 5

Question 8

What is a stack overflow?

- a) When the stack size exceeds the allocated memory
- b) When you try to push more elements than the stack capacity
- c) When the stack becomes full
- d) All of the above

Correct Answer: d) All of the above

Question 9

The peek() operation in a stack:

- a) Removes and returns the top element
- b) Returns the top element without removing it
- c) Adds a new element to the top
- d) Checks if the stack is empty

Correct Answer: b) Returns the top element without removing it

Question 10

Which of the following real-world applications uses a stack data structure?

- a) Function call management (call stack)
- b) Undo functionality in text editors
- c) Browser back button history
- d) All of the above

Correct Answer: d) All of the above

Answer Summary

Question	Answer
1	c
2	d
3	c
4	b
5	c
6	c
7	c
8	d
9	b
10	d