

Assignment No.2

Programming Questions (5 Marks Each)

Question 1). Implement a stack in C using an array. Write functions for push, pop, and display operations. Provide an example of how to use the stack.

Question 2). Implement a queue in C using a linked list. Write functions for enqueue, dequeue, and display operations. Provide an example of how to use the queue.

Multiple Choice Questions (1 Mark Each)

1. In a stack, the element that is removed first is:

- ☒ a) Top element
- b) Bottom element
- c) Middle element
- d) Random element

2. Which data structure follows the Last-In-First-Out (LIFO) principle?

- ☒ a) Stack
- b) Queue
- c) Array
- d) Linked List

3. In a queue, the element that is removed first is:

- ☒ a) Front element
- b) Rear element
- c) Middle element
- d) Random element

4. A queue follows the _____ principle.

Assignment No.2

- a) First-In-First-Out (FIFO)
- b) Last-In-First-Out (LIFO)
- c) Random access
- d) Stack

5. What operation is used to add an element to the top of a stack?

- a) Enqueue
- b) Push
- c) Pop
- d) Dequeue

6. Which of the following data structures is not suitable for implementing a queue?

- a) Array
- b) Linked list
- c) Stack
- d) Circular buffer

7. In a stack, which operation is used to retrieve the top element without removing it?

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

8. Which data structure is best suited for implementing an undo feature in a text editor?

- a) Stack
- b) Queue
- c) Linked list
- d) Array

Assignment No.2

9. In a queue, which pointer indicates the front of the queue?

- a) Top pointer
- b) Bottom pointer
- c) Front pointer
- d) Rear pointer

10. Which of the following is a practical application of a queue data structure?

- a) Managing function calls in recursion
- b) Implementing a back button in a web browser
- c) Implementing a redo feature in a text editor
- d) Storing a list of visited web pages

Feel free to use these questions for practice or in a quiz to test your knowledge of stacks and queues.

Ans:-

1)	2)	3)	4)	5)
6)	7)	8)	9)	10)