

# Stack, Queue and Heap

## *Basic Level Questions:*

### **Stack:**

- Implement a Stack Class with the following methods:
  - push()
  - pop()
  - peek()
  - empty()
  - search()

[Follow here: <https://www.geeksforgeeks.org/stack-data-structure-introduction-program/> ]

- Reverse a String using Stack

[Follow here: <https://www.geeksforgeeks.org/stack-set-3-reverse-string-using-stack/> ]

- Check the expression has valid or Balanced parenthesis or not.

[Follow here: <https://www.geeksforgeeks.org/check-for-balanced-parentheses-in-an-expression/> ]

- Implement two Stacks in an array

[Follow here: <https://www.geeksforgeeks.org/implement-two-stacks-in-an-array/> ]

### **Queue:**

- Implement a Queue class(using arrays) with the following methods:
  - enqueue()
  - dequeue()
  - front()
  - display()

[Follow here: <https://www.geeksforgeeks.org/array-implementation-of-queue-simple/> ]

- Implement a Circular queue with the same methods in the above problem statement

[Follow here: <https://www.geeksforgeeks.org/circular-queue-set-1-introduction-array-implementation/> ]

- Implement a Deque (Doubly Ended Queue) with insertion and deletion allowed at both the ends.

[Follow here: <https://www.geeksforgeeks.org/deque-set-1-introduction-applications/> ]