

## Lab Assignment 4

### Stacks

1. Develop a menu driven program demonstrating the following operations on a Stack: push(), pop(), isEmpty(), isFull(), display(), and peek().

Note: Use either arrays or linked list to implement stack.

2. Given a String, Reverse it using STACK. For example “data structure” should be output as “erutcurtsatad.”

3. Write a program that checks if an expression has balanced parentheses.

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

4. Write a program to convert an Infix expression into a Postfix expression.

<https://www.geeksforgeeks.org/stack-set-2-infix-to-postfix/>

5. Write a program for the evaluation of a Postfix expression.

<https://www.geeksforgeeks.org/stack-set-4-evaluation-postfix-expression/>

### Additional Questions:

- <https://www.interviewbit.com/problems/nearest-smaller-element/>
- <https://www.geeksforgeeks.org/design-a-stack-that-supports-getmin-in-o1-time-and-o1-extra-space/>
- <https://www.codechef.com/UCSD2020/problems/DSLA6>
- <https://www.codechef.com/problems/BEX>