

Sardar Vallabhbhai National Institute of Technology, SVNIT, Surat
B.Tech. I CSE (Sem-2)
Data Structure (CS102)
LAB Assignment 3

Stack and its Applications

Instructions:

Implement stack and its applications using array.

Following are the basic operations of stack:

- Push(): Add an item in the stack
 - Pop(): Remove an item from the stack
 - Peep() or Top(): Return top element of the stack
 - isEmpty(): Check for empty stack
 - isFull(): Check for full stack
-
1. Write a program to implement stack using an array in ascending order of index to perform the array push operation and accordingly all the remaining operations.
 2. Write a program to implement stack using an array in descending order of index to perform the array push operation and accordingly all the remaining operations.
 3. Write a program to implement two stacks using one single array.
 4. Write a program to reverse a string using Stack.
 5. Write a program to check the validity of the user given multi-dimensional array declaration.
 6. Write a program to implement factorial using recursion.
 7. Write a program to display first N Fibonacci series using recursion.
 8. Create your own_stack.h header file for the above all programs and show its working.