**SSN College of Engineering, Kalavakkam**

**Department of Computer Science and Engineering**

**III Semester - CSE**

# UCS 1312 Data Structures Lab Laboratory

|  |  |
| --- | --- |
| **Academic Year: 2019-2020** | **Batch: 2018-2022** |

**Exercise 4: Evaluation of expression using its postfix form and stack**

The structure stack consists of character array and top. Implement stack using array with the following methods.

* void push(Stack \*S, char x) – Push an element into the stack
* char pop(Stack \*S) – Pop an element from the stack
* void disp(Stack \*S) – Display elements from the stack
* int isEmpty(Stack \*S) – Check whether the stack is empty
* int isFull(Stack \*S) – Check whether the stack is full

Note:

1. Implement stack with the specified operations in stack.h
2. Check the stack by writing application program in c
3. Write a program in with the following functions

* To convert the given infix expression (without involving parenthesis) into its postfix form using the stack
  + char \* infixtoPostfix(char \*str, struct stack \*s)
* To evaluate the expression considering its postfix form
  + int evaluateExp(char \*postfix, struct stack \*s)