**Course: Data Structures and Algorithms**

**Lab 02**

**Stack, functions, and its implementation**

**Task 1:** Write java code to implement stack data structure using push and pop functions.

In this program you must implement the following functions in an ADT stack class.

Push()

Pop()

isEmpty()

isFull()

peek() //returning the topmost element of the stack

main method

**Expected Output:**

Inserting 1

Inserting 2

Inserting 3

Stack: 1, 2, 3,

After popping out

1, 2,

**Task 2:** Write a program which converts the infix expression into postfix expression. Use the functions created in task 1 to solve this problem. Also develop the following functions to solve this problem.

Precedence method

//prcd(op1,op2)

Where op1 and op2 are two operators

It returns true if op1 has precedence over op2

e.g. prcd(\*,+) will return true

**Task 3:** Write a program which evaluates the postfix expression and generates the final result. Use the functions created in task 1 to solve this problem.