Lab # 5: Stacks: Dynamic Implementation

Subject: **Data Structures and Algorithms**

Course: **BESE15 B**

Date: **21st October,10**

TASK:

Q1. Create a stack class using dynamic array, which can store integers. The class must allow user to perform following operations:

a. Constructor: To create and initialize a new stack object with stack size given by user.
b. Push a new element on stack
c. Pop topmost element from stack
d. Function to check whether stack is empty or not
e. Function to check whether stack is full or not
f. Display all elements of stack
g. Function which shows current status of stack i.e. number of elements pushed on to stack.
h. Destructor: To destroy the initialized stack array.

Q2. Create a basic calculator using dynamic stacks. The program takes two integer inputs from the user and pushes them onto the stack. The user may chose to add, subtract, multiply or divide the two numbers. On selection of choice, the numbers are popped from the stack and the required operation is performed.