# Lab Sheet 4

Lab Tasks:

A. Implement Stack using an array of size N.

Your sample code should look like the following:

```
#include <stdio.h>

int main ()
{

    //take stack size from the user as input
    //declare the stack of that specified size
    //declare a variable named as top, initially the value of top will be
-1
    while(1)
    {
        printf("\n\nType..\n1 to push\n2 to pop\n3 to check if the stack
is Empty\n4 to check the stack is Full\n0 to exit\n");
        scanf("%d", &option);
        if(option==1)
        {
            //If Top = maximum size of the stack then Print: Overflow and
Return.
            //else ask user what value to push, name it as "push"
            //increment the value of top by 1

            //insert the specified number of "push" in the "top"-th index
of the stack


            //After the if else loop print the stack
        }
        else if(option==2)
        {
            //If top = -1 then Print: Underflow and Return.


            // else insert a null in the "top"-th index
           // decrement the value of top by 1


           // After the if else loop print the stack


        }
        else if(option==3)
        {
            //return true(1) if stack is empty, false(0) otherwise
        }
else if(option==4)
        {
```

```
            //return true(1) if stack is Full, false(0) otherwise
        }
else if(option==0)
        {
            return ;
        }

        else printf("Invalid input.\n");
    }
    return 0;
}
```

After completing these tasks, try to implement the following:

i. Size()
ii. Top()
iii. Peek()

Reading materials:

Primary idea about stack: https://www.geeksforgeeks.org/stack-data-structure/