

NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR

Data Structures

LAB 3: Static Implementation of Stacks

```
MAIN
    Declare variables and array for stack
    Display options to the user ( Push, Pop, Print, Exit )

INITIALIZE STACK
Do
{
    If user selects push
    {
        Ask for the item to push
        Call Push function
    }
    else if user selects pop
    {
        Pop out the item from the stack
        by calling Pop function
    }
    else if user selects print
    {
        Print the stack( bottom to top )
    }
    else if user enters exit
        exit the program
}
Till user selects Exit

END MAIN

/*Functions*/

PUSH( Base address of array, Item , Address of the top variable )
    Check if stack is full or not
    Increment the top pointer
    Add item to stack
    return

END PUSH

POP( Base address of array, Address of the top variable )
    Check if stack is empty
    Take item from stack
    Decrement the pointer
    Return the item popped

END POP

PRINT(( Base address of array, Address of the top variable )
    Starting from TOP to BASE of stack
    Print the elements, one in a line

END PRINT
```

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SAMPLE OUTPUT:

STACK IMPLEMENTATION WITH ARRAYS

****What operation do you want to perform?**

1. PUSH
2. POP
3. PRINT
4. EXIT

Enter Choice: 1

You selected Push

Enter Item to Push to Stack: 15

Item Added

****What operation do you want to perform?**

1. PUSH
2. POP
3. PRINT
4. EXIT

Enter Choice: 3

You selected Print

Current Stack:

15

****What operation do you want to perform?**

1. PUSH
2. POP
3. PRINT
4. EXIT

Enter Choice: 2

You selected Pop

Item Popped : 15

****What operation do you want to perform?**

1. PUSH
2. POP
3. PRINT
4. EXIT

Enter Choice: 2

You selected Pop

STACK IS EMPTY!!!

****What operation do you want to perform?**

1. PUSH
2. POP
3. PRINT
4. EXIT

Enter Choice: 4

You selected to Exit the program: Good Bye!

Department of Computer Science and Engineering

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