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Lab Program 1

Write a program to simulate the working of stack using an array with the following:

a) Push b) Pop c) Display d) Exit

The program should print appropriate message for Stack Overflow.

```
#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#define STACK_SIZE 5
int top = -1;
int s[10];
int item;
void push()
{
    if (top == STACK_SIZE - 1)
    {
        printf("Stack Overflow \n");
        return;
    }
    top = top + 1;
    s[top] = item;
}
int pop()
{
    if (top == -1)
        return -1;
    return s[top--];
}
void display()
{
}
```

```
int i;
if (top == -1)
{
    printf("Stack is empty \n");
    return;
}
printf("Contents of the stack : \n");
for (i = top; i >= 0; i--)
{
    printf("%d \n", s[i]);
}
}

void main()
{
    int item_deleted;
    int choice;
    for(;;)
    {
        printf("\n 1: Push \n 2: Pop \n 3: Display \n 4: Exit \n");
        printf("Enter the choice : \n");
        scanf("%d", &choice);
        switch(choice)
        {
            case 1: printf("Enter the item to be inserted \n");
                     scanf("%d", &item);
                     push();
                     break;
            case 2: item_deleted = pop();
                     if (item_deleted == -1)
                         printf("Stack is empty \n");
                     else
```

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```
printf("Item deleted is %d \n",  
item_deleted);  
break;  
case 3: display();  
break;  
default: exit(0);  
}  
}  
getch();  
}
```