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Lab program - 1

Q. Write a program to simulate the working of Stack using array with the following
a) push b) pop c) Display
The program should print appropriate overflow and underflow

```
#include <stdio.h>
#include <process.h>
#include <conio.h>
#define STACK_SIZE
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 empty\n");
return;
}

printf ("Contents of the stack\n");
for (i = 0; i <= top; 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  
printf ("item deleted is %d \n", item-deleted);  
break;  
Case 3: display ();  
break;  
default : exit (0);  
}  
}  
getch ();  
}
```