

Push

→ We have to input stack
then element

if $\text{top} = \text{size} - 1$
print overflow
else $\text{top}++$
 $\text{stack}[\text{top}] = \text{element}$

Exit

Pop

→ input stack

if $\text{top} == -1$
print underflow
else $\text{element} = \text{stack}[\text{top}]$

return element

Stop

Display input stack[]

for ($i = \text{top}; i >= 0; i--$)

print stack[i]

stop

Algorithm

CSE:- (BM19CS010)

```
***** Error or warning messages will appear here *****
```

```
1 // Stack overflow example
2 // Author: [REDACTED]
3 // To run this code, copy it into a file named "stack.c"
4 // Then open terminal, go to the same directory as the file and type "gcc stack.c" to compile the code
5 // Then type "./stack" to run the program
6 // If you see "Stack Overflow", then your code is working correctly
7
8
9 #include <stdio.h>
10 #include <stdlib.h>
11 #define STACK_SIZE 5
12 int top=-1;
13 int s[10];
14 int item;
15 void push()
16 {
17     if(top==STACK_SIZE-1)
18     {
19         printf("\nSTACK OVERFLOW\n");
20         return;
21     }
22     top+=1;
23     s[top]=item;
24 }
25 int pop()
26 {
27     if(top==-1)
28         return -1;
29     return s[top--];
30 }
```

```
28     if(top == -1)
29         return -1;
30     return s[top--];
31 }
32 void display()
33 {
34     int i;
35     if(top == -1)
36     {
37         printf("\nStack is empty\n");
38         return;
39     }
40     printf("The contents fo the stack are:\n");
41     for (i=0;i<=top;i++)
42     {
43         printf("%d\n",s[i]);
44     }
45 }
46 void main()
47 {
48     int item_deleted,choice;
49     while(1)
50     {
51         printf("\n1: Push\n2: Pop\n3: Display\n4: EXIT\n");
52         printf("Enter your choice:");
53         scanf("%d",&choice);
54         switch(choice)
```

```
c
  File Edit View Debug Stop Share Save { } Beautify 
case 1:
printf("\nEnter the item to be inserted:");
scanf("%d",&item);
push();
break;
case 2:
item_deleted=pop();
if(item_deleted== -1)
{
    printf("\nStack is empty\n");
}
else
{
    printf("\nThe item deleted is %d\n",item_deleted);
}
break;
case 3:
display();
break;
default:exit(0);

}
}
```