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1 #include<stdio.h>
2 #define N 4
3 int top=-1;
4 void push(int[], int);
5 int pop(int[]);
6 void display(int[]);
7
8 int main(int argc, char **argv)
9 {
10     int stack[N];
11     int choice=0,element;
12     printf("Please choose options:\n");
13     printf("1 - Push\n");
14     printf("2 - Pop\n");
15     printf("3 - Display\n");
16     printf("4 - Quit\n");
17     while(choice!=4)
18     {
19         printf("Please enter your choice\n");
20         scanf("%d",&choice);
21         if(choice==1)
22         {
23             printf("Enter an element\n");
24             scanf("%d",&element);
25             push(stack,element);
26         }

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25         push(stack,element);
26     }
27     else if(choice==2)
28     {
29         int num = pop(stack);
30         printf("The popped element is %d\n",num);
31     }
32     else if(choice==3)
33     {
34         display(stack);
35     }
36     else if(choice==4)
37         break;
38     else
39         printf("Invalid choice\n");
40
41 }
42 return 0;
43 }
44
45 void push(int stack[], int element)
46 {
47     if(top==N-1)
48         printf("Stack Overflow\n");
49     else
50     {

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47         printf("Stack Overflow\n");
48     }
49     else
50     {
51         top++;
52         stack[top]=element;
53     }
54 }
55
56 int pop(int stack[])
57 {
58     int num;
59     if(top==-1){
60         printf("Stack Underflow\n");
61         return -1;}
62     else
63     {
64         num=stack[top];
65         top--;
66         return num;
67     }
68 }
69
70 void display(int stack[])
71 {
72     int i;
73     printf("The elements in stack are\n");

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```
55
56 int pop(int stack[])
57 {
58     int num;
59     if(top==-1){
60         printf("Stack Underflow\n");
61         return -1;}
62     else
63     {
64         num=stack[top];
65         top--;
66         return num;
67     }
68
69 }
70 void display(int stack[])
71 {
72     int i;
73     printf("The elements in stack:\n");
74     for(i=top;i>=0;i--)
75     {
76         printf("%d\n",stack[i]);
77     }
78 }
```

Please choose options:

- 1 - Push
- 2 - Pop
- 3 - Display
- 4 - Quit

Please enter your choice:1

Enter an element to push:21

Please enter your choice:1

Enter an element to push:21

Please enter your choice:1

Enter an element to push:22

Please enter your choice:2

The popped element:22Please enter your choice:

3

The elements in stack:

21

21

Please enter your choice: