main.c

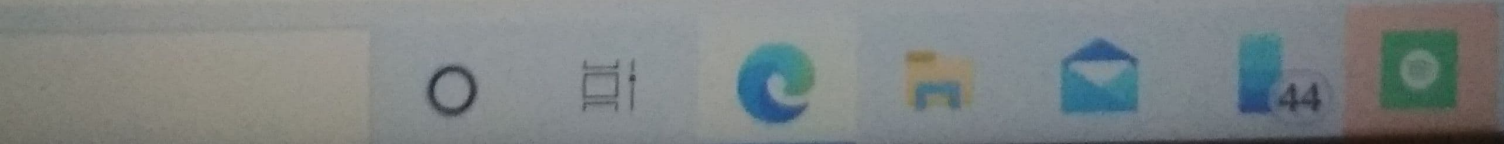
```c
#include <stdio.h>
#include <stdlib.h>
#define SIZE 3
int top=-1;
int stack[SIZE];
void push(int ele)
{
    if(top==SIZE-1)
    {
        printf(" stack overflow \n");
    }
    else
    {
        top++;
        stack[top]=ele;
    }
}
int pop()
{
    if(top==-1)
    {
        return 0;
    }
    else
    {   printf("Element removed is : %d\n",stack[top--]
    );
```

main.c

```
25          {   printf("Element removed is : %d\n",stack[top--]
            );
26              return 1;
27          }
28      }
29
30      void display()
31      {
32          if(top==-1)
33              printf(" stack underflow\n");
34          else
35          {
36              printf("The elements are\n");
37              for(int i=0;i<=top;i++)
38              {
39                  printf("%d\n",stack[i]);
40              }
41          }
42      }
43
44      int main()
45      {
46        int c,d,p;
47        while(c!=4)
48        {
49        printf("Enter
```

main.c

```
49      printf("Enter
        command\t1-push\t2-pop\t3-Display\t4-Exit\n");
50      scanf("%d",&c);
51      switch(c)
52      {
53        case 1:printf("Enter an element\n");
54              scanf("%d",&d);
55              push(d);
56              break;
57        case 2:p=pop();
58              if(p==0)
59               printf("Stack underflow\n");
60               else
61               printf("\nElement removed succesfully\n");
62               break;
63        case 3:display();
64              break;
65        case 4:break;
66        default: printf("Invalid input\n");
67      }
68      }
69    return 0;
70    }
```



```
clang-7 -pthread -lm -o main main.c
./main
Enter command   1-push  2-pop   3-Display   4-Exit
1
Enter an element
30
Enter command   1-push  2-pop   3-Display   4-Exit
1
Enter an element
20
Enter command   1-push  2-pop   3-Display   4-Exit
1
Enter an element
10
Enter command   1-push  2-pop   3-Display   4-Exit
3
The elements are
30
20
10
Enter command   1-push  2-pop   3-Display   4-Exit
1
Enter an element
40
 stack overflow
Enter command   1-push  2-pop   3-Display   4-Exit
2
Element removed is : 10

Element removed succesfully
Enter command   1-push  2-pop   3-Display   4-Exit
2
```

```
Enter command   1-push  2-pop   3-Display   4-Exit
3
The elements are
30
20
10
Enter command   1-push  2-pop   3-Display   4-Exit
1
Enter an element
40
 stack overflow
Enter command   1-push  2-pop   3-Display   4-Exit
2
Element removed is : 10

Element removed succesfully
Enter command   1-push  2-pop   3-Display   4-Exit
2
Element removed is : 20

Element removed succesfully
Enter command   1-push  2-pop   3-Display   4-Exit
2
Element removed is : 30

Element removed succesfully
Enter command   1-push  2-pop   3-Display   4-Exit
2
Stack underflow
Enter command   1-push  2-pop   3-Display   4-Exit
4
>
```