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1  /*This program demonstrate the linked implementation of stacks*/
2  #include <process.h>
3  #include <stdio.h>
4  #include <stdlib.h>
5  #include <conio.h>
6
7  struct stack
8  {
9      int no;
10     struct stack *next;
11 } *top = NULL;
12
13 typedef struct stack st;
14 void push();
15 int pop();
16 void display();
17 int main()
18 {
19     char ch;
20     int choice, item;
21     int flag = 1;
22     do
23     {
24         printf("\n\n Enter your choice");
25         printf(" \n\n\t 1: Push the elements");
26         printf(" \n\n\t 2: Pop the elements");
27         printf(" \n\n\t 3: To display the element");
28         printf(" \n\n\t 4: Exit");
29         printf("\n\n Enter of your choice:\t");
30         scanf("%d",&choice);
31         //clrscr();
32         switch(choice)
33         {
34             case 1:
35                 push();
36                 break;
37             case 2:
38                 item = pop();
39                 if(item != -1)
40                     printf("poped item is %d", item);
41                 break;
42             case 3:
43                 // clrscr();
44                 display();
45                 break;
46             case 4:
47                 flag=0;
48                 break;
49             default:
50                 printf("\n Invalid Choice");
51         }
52     }while(flag);
53     getch();
54 }
55
56
57 void push()
58 {
59     st *p;
60     p = (st *) malloc (sizeof(st));
61     printf("\n Enter the number");
62     scanf("%d", &p->no);
63     p->next = top;
64     top = p;
65 }
66

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67 int pop()
68 {
69     st *p;
70     p = top;
71     if(top == NULL){
72         printf("stack is already empty");
73         return -1;
74     }
75     else
76     {
77         top = top -> next;
78         return (p -> no);
79         free(p);
80     }
81 }
82
83 void display()
84 {
85     st *p;
86     p = top;
87     while (p != NULL)
88     {
89         printf("\nno = %d", p -> no);
90         p = p -> next;
91     }
92     if(top == NULL)
93         printf("Stack is empty");
94 }

```