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1  # include <stdio.h>
2  # include <stdlib.h>
3  # define MAX 5
4  int stack[MAX];
5  int top = -1;
6  int menu()
7  {
8      int ch;
9      printf("\n Stack operations using ARRAY... ");
10     printf("\n -----\n");
11     printf("\n 1. Peek ");
12     printf("\n 2. Push ");
13     printf("\n 3. Pop ");
14     printf("\n 4. Display");
15     printf("\n 5. Quit ");
16     printf("\n Enter your choice: ");
17     scanf("%d", &ch);
18     return ch;
19 }
20 void peek()
21 {
22     if(top == -1)
23     {
24         printf("\n\nStack empty..");
25         return;
26     }
27     else
28     {
29         printf("\n\nTop element is: %d ", stack[top]);
30     }
31 }
32 void display()
33 {
34     int i;
35     if(top == -1)
36     {
37         printf("\n\nStack empty..");
38         return;
39     }
40     else
41     {
42         printf("\n\nElements in stack:");
43         for(i = 0; i <=top; i++)
44             printf("\t%d", stack[i]);
45     }
46 }
47 void pop()
48 {
49     if(top == -1)
50     {
51         printf("\n\nStack Underflow..");
52         return;
53     }
54     else
55     {
56         printf("\n\npopped element is: %d ", stack[top]);
57         top = top - 1;
58     }
59 }
60 }
61 void push()
62 {
63     int data;
64     if(top == MAX-1)
65     {
66         printf("\n\nStack Overflow..");
67         return;
68     }
69     else

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70     {
71         printf("\n\nEnter data: ");
72         scanf("%d", &data);
73         top = top + 1;
74         stack[top] = data;
75         printf("\n\nData Pushed into the stack");
76     }
77 }
78 void main()
79 {
80     int ch;
81     do
82     {
83         ch = menu();
84         switch(ch)
85         {
86             case 1:
87                 peek();
88                 break;
89             case 2:
90                 push();
91                 break;
92             case 3:
93                 pop();
94                 break;
95             case 4:
96                 display();
97                 break;
98             case 5:
99                 exit(0);
100         }
101     } while(1);
102 }
103

```