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1  #include<stdio.h>
2  #include<stdlib.h>
3
4  #define SIZE 3
5
6  int front = -1;
7  int rear = -1;
8
9  int Q[SIZE];
10
11 void EnQ(int);
12 int DeQ();
13 void display();
14
15 int main(int argc, char **argv)
16 {
17     int choice, item;
18     do
19     {
20         printf("\nEnter choice: 1.EnQ 2.DeQ 3.display 4.Exit :");
21         scanf("%d", &choice);
22         switch(choice)
23         {
24             case 1: printf("Enter the element to be added to the Q:");
25                     scanf("%d", &item);
26                     EnQ(item);
27                     break;
28             case 2: item = DeQ();
29                     if(item == -1)
30                         printf("Q is empty");
31                     else
32                         printf("\nItem removed from Q: %d", item);
33                     break;
34             case 3: display();
35                     break;
36             case 4: exit(0);
37         }
38     }
39     while(choice != 4);
40     return 0;
41 }
42
43 void EnQ(int el)
44 {
45     if(rear == (SIZE-1))
46         printf("Q is full");
47     else
48     {
49         if(rear == -1)
50         {
51             front = 0;
52         }
53         rear++;
54         Q[rear] = el;
55     }
56 }
57
58 int DeQ()
59 {
60     int item;
61     if(front == -1)
62         return -1;
63     else
64     {
65         item = Q[front];
66         front++;
67         if(front > rear)
68         {
69             front = -1;
70             rear = -1;
71         }
72         return item;
73     }

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73     }
74 }
75
76 void display()
77 {
78     int i;
79     if(front == -1)
80         printf("Q is empty\n");
81     else
82     {
83         printf("\nQ contents are:");
84         for(i=front; i<=rear; i++)
85             printf("%d\t",Q[i]);
86     }
87 }
88
```