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1  #include <stdio.h>
2  #include <stdlib.h>
3  #define MAX 3
4
5  int front=-1;
6  int rear=-1;
7
8  int queue[MAX];
9
10 void Enq(int);
11 int Deq();
12 void display();
13 int main(int argc, char **argv)
14 {
15     int option;
16     int item;
17     while(option != 4)
18     {
19         printf("\nEnter choice: 1.Insert 2.Delete 3.Display 4.Exit:");
20         scanf("%d",&option);
21         switch(option)
22         {
23             case 1: printf("Enter the element: ");
24                     scanf("%d",&item);
25                     Enq(item);
26                     break;
27             case 2: item=Deq();
28                     if(item== -999)
29                         printf("Queue is empty");
30                     else
31                         printf("\nRemoved element from the queue: %d",item);
32                     break;
33             case 3: display();
34                     break;
35             case 4: exit(0);

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36             default: exit(0);
37         }
38     }
39     return 0;
40 }
41
42 void Enq(int ele)
43 {
44     if(((front == 0 && rear == MAX - 1)) || (front == rear + 1) )
45     {
46         printf("Queue is full\n");
47     }
48     else
49     {
50         rear=(rear+1)%MAX;
51         queue[rear]=ele;
52         if(front == -1)
53             front=0;
54     }
55 }
56 int Deq()
57 {
58     int item;
59     if((front == -1)&&(rear == -1))
60     {
61
62         return(-999);
63     }
64     else
65     {
66         item=queue[front];
67
68         if(front==rear)
69         {
70             front=-1;

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71         rear=-1;
72     }
73     else
74     {
75         front=(front+1)%MAX;
76     }
77     return item;
78 }
79
80 }
81
82 void display()
83 {
84     int i;
85     if((front==-1)&& (rear==-1))
86     {
87
88         printf("Queue is empty\n");return;
89
90     }
91     else
92     {
93         printf("\nQueue contents:");
94         for(i=front;i<=rear;i++)
95             printf("%d\t", queue[i]);
96         printf("\n");
97     }
98 }
```