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1 //CODEBLOCKS
2 //SHREYAS SAWANT D7A 55
3 //Implement linear queue using array
4
5 #include <stdio.h>
6 #include <stdlib.h>
7
8
9 void insert();
10 void del();
11 void display();
12 void peek();
13 int MAX;
14 int qrray[1000];
15 int rear=-1;
16 int front=-1;
17 int main()
18 {
19     int choice;
20     printf("Enter size of queue: ");
21     scanf("%d",&MAX);
22     int qrray[MAX];
23
24     while (1)
25     {
26         printf("\n1.Insert element to queue \n2.Delete element from queue \n3.Peek\n4.Display
all elements of queue \n5.Quit\nEnter your choice: ");
27         scanf("%d", &choice);
28         switch (choice)
29         {
30             case 1:
31                 insert();
32                 break;
33             case 2:
34                 del();
35                 break;
36             case 3:
37                 peek();
38                 break;
39             case 4:
40                 display();
41                 break;
42             case 5:
43                 exit(1);
44             default:
45                 printf("Wrong choice \n");
46         }
47     }
48 }
49
50 void insert()
51 {
52     int a;
53     if (rear==MAX-1)
54         printf("\nQueue Overflow\n ");
55     else
56     {
57         if (front==--1)
58             front=0;
59         printf("\nInsert the element in queue : ");
60         scanf("%d",&a);
61         rear=rear+1;
62         qrray[rear]=a;
63     }
64 }
65
66 void del()
67 {
68     if (front==--1 || front>rear)
69     {
70         printf("\nQueue Underflow\n ");
71         return ;
72     }
73     else
74     {
75         printf("\nElement deleted from queue is : %d\n",qrray[front]);
76         front=front+1;
77     }
78 }
79
80 void peek()
81 {
82     printf("\nThe front element of queue is: %d\n",qrray[front]);
83 }

```

```
84 void display()
85 {
86     int i;
87     if (front== -1)
88         printf("\nQueue is empty\n ");
89     else
90     {
91         printf("\nQueue is : \n");
92         for (i=front; i<=rear; i++)
93             printf("%d ", qrray[i]);
94         printf("\n");
95     }
96 }
97
```