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1  /*
2  * C Program to Implement a Queue using an Array
3  */
4  #include <stdio.h>
5  #include <conio.h>
6  #include <stdlib.h>
7  void enqueue();
8  void dequeue();
9  void display();
10 #define MAX 5
11 int queue_array[MAX];
12 int rear = - 1;
13 int front = 0;
14 main()
15 {
16     int choice;
17     while (1)
18     {
19         printf("\n1.Insert element to queue \n");
20         printf("2.Delete element from queue \n");
21         printf("3.Display all elements of queue \n");
22         printf("4.Quit \n");
23         printf("Enter your choice : ");
24         scanf("%d", &choice);
25         switch (choice)
26         {
27             case 1:
28                 enqueue();
29                 break;
30
31             case 2:
32                 dequeue();
33                 break;
34
35             case 3:
36                 display();
37                 break;
38
39             case 4:
40                 exit(1);
41
42             default:
43                 printf("Wrong choice \n");
44         } /*End of switch*/
45     } /*End of while*/
46 } /*End of main()*/
47
48 void enqueue()
49 {
50     int add_item;
51     if (rear == MAX - 1)
52         printf("Queue Overflow \n");
53     else
54     {
55         printf("Insert the element in queue : ");
56         scanf("%d", &add_item);
57         rear = rear + 1;
58         queue_array[rear] = add_item;
59     }
60 } /*End of insert()*/
61
62 void dequeue()
63 {
64     if (front > rear)
65     {
66         printf("Queue Underflow \n");

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67         return ;
68     }
69     else
70     {
71         printf("\nElement deleted from queue is : %d\n", queue_array[front]);
72         front = front + 1;
73     }
74 } /*End of delete() */
75
76 void display()
77 {
78     int i;
79     if (front > rear)
80         printf("Queue is empty \n");
81     else
82     {
83         printf("Queue is : \n");
84         for (i = front; i <= rear; i++)
85             printf("%d ", queue_array[i]);
86         printf("\n");
87     }
88 } /*End of display() */
```