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tutorial_02.c

1 #include <stdio.h>
2 #define MAX 100
3
4 int queue[MAX];
5 int front = -1, rear = -1;
6
7 void enqueue(int value) {
8     if (rear == MAX - 1)
9         printf("Queue is full\n");
10    else {
11        if (front == -1) front = 0;
12        queue[++rear] = value;
13        printf("%d enqueue to queue\n", value);
14    }
15 }
16
17 void dequeue() {
18     if (front == -1 || front > rear)
19         printf("Queue is empty\n");
20     else {
21         printf("%d dequeued from queue\n", queue[front]);
22         front++;
23     }
24 }
25
26 void display() {
27     if (front == -1 || front > rear)
28         printf("Queue is empty\n");
29     else {
30         printf("Queue elements: ");
31         for (int i = front; i <= rear; i++)
32             printf("%d ", queue[i]);
33         printf("\n");
34     }
35 }
36
37 int main() {
38     int choice, value;
39     while (1) {
40         printf("\n1. Enqueue\n2. Dequeue\n3. Display\n4. Exit\n");
41         printf("Enter choice: ");
42         scanf("%d", &choice);
43
44         switch (choice) {
45             case 1:
46                 printf("Enter value to enqueue: ");
47                 scanf("%d", &value);
48                 enqueue(value);
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49         break;
50     case 2:
51         dequeue();
52         break;
53     case 3:
54         display();
55         break;
56     case 4:
57         return 0;
58     default:
59         printf("Invalid choice\n");
60     }
61 }
62 }
```