

CIRCULARQUEUEEDS.c - Code::Blocks 25.03

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*LINEARQUEUE.c x CIRCULARQUEUEEDS.c x

```
1  #include <stdio.h>
2  #define SIZE 3 // Queue size
3
4  int queue[SIZE];
5  int front = -1, rear = -1;
6
7  // Insert element into circular queue
8  void insert() {
9      int x;
10     if ((rear + 1) % SIZE == front) {
11         printf("Queue Overflow!\n");
12         return;
13     }
14     printf("Enter value: ");
15     scanf("%d", &x);
16     if (front == -1) {
17         front = rear = 0;
18     } else {
19         rear = (rear + 1) % SIZE;
20     }
21     queue[rear] = x;
22     printf("%d inserted.\n", x);
23 }
24
25 // Delete element from circular queue
26 void deleteElement() {
27     if (front == -1) {
28         printf("Queue Underflow!\n");
```

```
here x LINEAR.c x
24     printf("%d deleted.\n", q[front++]);
25     if (front > rear) {
26         // Reset queue when empty
27         front = rear = -1;
28     }
29 }
30
31 void display() {
32     if (front == -1 || front > rear) {
33         printf("Queue is empty.\n");
34         return;
35     }
36     printf("Queue: ");
37     for (int i = front; i <= rear; i++) {
38         printf("%d ", q[i]);
39     }
40     printf("\n");
41 }
42
43 int main() {
44     int ch;
45     while (1) {
46         printf("\n1.Insert 2.Delete 3.Display 4.Exit\nChoice: ");
47         scanf("%d", &ch);
48         switch (ch) {
49             case 1: insert(); break;
50             case 2: delete(); break;
51             case 3: display(); break;
```

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 1

Enter value: 54

54 inserted.

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 1

Enter value: 78

78 inserted.

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 1

Enter value: 56

56 inserted.

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

- 2. Delete
- 3. Display
- 4. Exit

Choice: 1

Enter value: 56

56 inserted.

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 2

54 deleted.

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 3

Queue: 78 56

--- Circular Queue Menu ---

- 1. Insert
- 2. Delete
- 3. Display
- 4. Exit

Choice: 4

Process returned 0 (0x0) execution time : 163.098 s

Press any key to continue.