

Queue:

The screenshot shows the Dev-C++ IDE interface with the file `queue.c` open. The code implements a queue using an array `queue` of size `SIZE`. It includes functions for insertion, deletion, and display, along with a main loop for user interaction.

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

Output :

The screenshot shows a terminal window displaying the execution of the `queue.c` program. The user interacts with the program by entering choices (1 for Insert, 2 for Delete, 3 for Display) and values (e.g., 12, 23) at the prompt.

```
3. Display
4. Exit
Enter choice: 1
Enter value to insert: 12
12 inserted

1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 1
Enter value to insert: 23
23 inserted

1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 2
12 deleted

1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 3
Queue elements: 23
```