

main.c

```
1  #include<stdio.h>
2
3  #define size 3
4  int queue[size];
5  int front = -1;
6  int rear = -1;
7
8  void enqueue(int x)
9  {
10     if (rear == size - 1)
11         printf("Queue is full\n");
12     else if (front == -1 && rear == -1)
13     {
14         front++;
15         rear++;
16         queue[rear] = x;
17     }
18     else
19     {
20         rear++;
21         queue[rear] = x;
22     }
23 }
24
25 int dequeue()
```


main.c

```
25  int dequeue()
26  {
27      int x;
28      if (front == -1)
29          return -1;
30      else
31      {
32          x = queue[front];
33          front++;
34          if (front > rear)
35          {
36              front = -1;
37              rear = -1;
38          }
39          return x;
40      }
41  }
42
43  void display()
44  {
45      int i;
46      if (front == -1)
47          printf("Queue is empty\n");
48      else
49      {
50          printf("The queue is full.\n");
```



```
50     printf("The queue is full:\n");
51     for (i = front; i <= rear; i++)
52     {
53         printf("%d\n", queue[i]);
54     }
55 }
56 }
57
58 int main()
59 {
60     int i;
61     int x;
62     do {
63         printf("\n 1. Insert to Queue ");
64         printf("\n 2. delete from the Queue ");
65         printf("\n 3. Display the content ");
66         printf("\n 4. Exit\n");
67         printf("Enter the option :");
68         scanf("%d", &i);
69         switch (i)
70         {
71             case 1: printf("Enter the element\n");
72                     scanf("%d", &x);
73                     enqueue(x);
74                     break;
```


in.c

```
3      enqueue(x);
4      break;
75 case 2: x= dequeue();
76      if (x == -1)
77          printf("Queue is empty\n");
78      else
79          printf("Removed element from the queue %d", x);
80      break;
81 case 3: display();
82      break;
83 case 4: break;
84      }
85 } while (i != 4);
86 return 0;
87 }
```


Enter the option :1

Enter the element

2

1. Insert to Queue
2. delete from the Queue
3. Display the content
4. Exit

Enter the option :1

Enter the element

3

1. Insert to Queue
2. delete from the Queue
3. Display the content
4. Exit

Enter the option :3

The queue is full:

1

2

3

1. Insert to Queue
2. delete from the Queue
3. Display the content
4. Exit

Enter the option :