

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #define SIZE 6
4  int a[SIZE];
5  int front=-1;
6  int rear=-1;
7  int IsEmpty()
8  {
9      if(rear==-1 && front==-1)
10         return 1;
11     else
12         return 0;
13 }
14 int IsFull()
15 {
16     if(rear==SIZE-1)
17         return 1;
18     else
19         return 0;
20 }
21 void Enqueue(int x)
22 {
23     if(IsFull())
24         printf("The queue is full\n");
25     else if(IsEmpty())
26     {
27         front=0;
28         rear=0;
29         a[rear]=x;
30     }
31     else
32     {
33         rear=rear+1;

```

```

33     rear=rear+1;
34     a[rear]=x;
35 }
36
37 }
38
39 int Dequeue()
40 {
41     int x;
42     if(IsEmpty())
43         printf("The queue is empty.\n");
44     else if(front==rear)
45     {
46         x=a[front];
47         front=-1;
48         rear=-1;
49     }
50     else
51     {
52         x=a[front];
53         front=front+1;
54     }
55     return x;
56 }
57 void display()
58 {
59     if(front==-1)
60         printf("The queue is empty\n");
61     else
62     {
63         printf("The elements are:\n");
64         for(int i=front;i<=rear;i++)
65             printf("%d\n",a[i]);
66     }
67 }

```


main.c

```
59     printf("The queue is empty\n");
60     else
61     {
62         printf("The elements are:\n");
63         for(int i=front;i<=rear;i++)
64             printf("%d\n",a[i]);
65     }
66 }
67 int main()
68 {
69     int n,a,x;
70     while(1)
71     {
72         printf("Enter the operation.\n1-Insert\n2-Delete\n3-Display\n4-Exit\n");
73         scanf("%d",&n);
74         switch(n)
75         {
76             case 1: printf("Enter the element\n");
77                     scanf("%d",&a);
78                     Enqueue(a);
79                     break;
80
81             case 2 : Dequeue();
82                     printf("The element was removed\n");
83                     break;
84             case 3: display();
85                     break;
86             case 4: exit(0);
87             default : printf("There is no such operation\n");
88         }
89     }
90     return 0;
91 }
```

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Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

1

Enter the element

23

Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

1

Enter the element

34

< Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

1

Enter the element

56

Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

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34

Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

1

Enter the element

56

Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

2

The element was removed



Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit

3

The elements are:

34

56

Enter the operation.

1-Insert

2-Delete

3-Display

4-Exit