

```
1 #include<stdlib.h>
2 #include<stdio.h>
3 #define max 5
4 int front=-1,rear=-1;
5 int CQueue[max];
6 void insert();
7 int ndelete();
8 void display();
9 void search();
10 int main()
11 {
12     int w,no;
13     for(;;)
14     {
15         printf("\n::Menu::\n");
16         printf("\n-----\n");
17         printf("\n1.insert");
18         printf("\n2.delete");
19         printf("\n3.display");
20         printf("\n4.search");
21         printf("\n5.EXIT");
22         printf("\nEnter any option:\n");
23         scanf("%d",&w);
24         switch(w)
25         {
26             case 1:
```



```

26     case 1:
27         insert();
28         break;
29     case 2:
30         no=ndelete();
31         break;
32     case 3:
33         display();
34         break;
35     case 4:
36         search();
37
38     case 5:
39         exit(0);
40     default:
41         printf("\nInvalid option!\n");
42     }
43 }
44 }
45 void insert()
46 {
47     int no;
48     if((front==0 && rear==max-1) || front==rear+
49     1)
50     {
        printf("\nCircular queue is full!\n");
    }
}

```

```
48 1)
49 {
50     printf("\nCircular queue is full!\n");
51     return;
52 }
53 printf("\n enter a number to insert :\n");
54 scanf("%d",&no);
55 if(front== -1)
56     front=front+1;
57 if(rear==max-1)
58     rear=0;
59     else rear =rear+1;
60     CQueue[rear]=no;
61 }
62 int ndelete()
63 {
64     int e;
65     if(front== -1)
66     {
67         printf("\nThe circular queue is empty!!\n");
68     }
69     e=CQueue[front];
70     if(front ==max-1)
71         front =0;
72     else if(front== rear)
73     {
```

```
72     else if(front== rear)
73     {
74         front=-1;
75         rear=-1;
76     }
77     else front=front +1;
78     printf("\n %d was deleted \n",e);
79     return e;
80 }
81 void display()
82 {
83     int i;
84     if(front== -1)
85     {
86         printf("\n The circular queue is
empty!nothing to display!!\n");
87         return;
88     }
89     i=front;
90     if(front<=rear)
91     {
92         printf("\n\n");
93         while(i<=rear)
94             printf("%d",CQueue[i++]);
95         printf("\n");
96     }
```




```

94     printf("%d",CQueue[i++]);
95     printf("\n");
96 }
97     else
98     {
99         printf("\n\n");
100        while(i<=max-1)
101            printf("%d",CQueue[i++]);
102            i=0;
103        while(i<=rear)
104            printf("%d",CQueue[i++]);
105            printf("\n");
106    }
107 }
108 void search()
109 {
110     int item,i,c=0;
111     printf("enter the element which is to be
searched");
112     scanf("%d",&item);
113     for(i=front;i<=rear;i++)
114     {
115         if(item==CQueue[i])
116         {
117             printf("item found at location '
118             C++:

```



```
105     printf("\n");
106 }
107 }
108 void search()
109 {
110     int item,i,c=0;
111     printf("enter the element which is to be
searched");
112     scanf("%d",&item);
113     for(i=front;i<=rear;i++)
114     {
115         if(item==CQueue[i])
116         {
117             printf("item found at location %d",i+1);
118             c++;
119         }
120     }
121     if(c==0)
122     printf("item not found");
123 }
```



::Menu::

~~~~~

1.insert  
2.delete  
3.display  
4.search  
5.EXIT

Enter any option:

1

enter a number to insert :

56

::Menu::

~~~~~

1.insert
2.delete
3.display
4.search
5.EXIT

Enter any option:

2

56 was deleted !

::Menu::

~~~~~

1.insert  
2.delete  
3.display  
4.search  
5.EXIT

Enter any option:

3

The circular queue is empty!nothing to display!!

::Menu::

enter a number to insert :

56

::Menu::

~~~~~

1.insert
2.delete
3.display
4.search
5.EXIT

Enter any option:

2

56 was deleted !

::Menu::

~~~~~

1.insert  
2.delete  
3.display  
4.search  
5.EXIT

Enter any option:

3

The circular queue is empty!nothing to display!!

::Menu::

~~~~~

1.insert
2.delete
3.display
4.search
5.EXIT

Enter any option:

4

enter the element which is to be searched43

item not found

[Program finished]