

```
1  /**
2   A PROGRAM TO IMPLEMENT CIRCULAR QUEUE.
3   */
4   //SUCHIT TE XII A
5   public class cirqueue
6   {
7       int front , rear , max;
8       int cq[] = new int[100];
9       cirqueue(int size)
10      {
11          max = size;
12          front=rear=-1;
13      }
14      void insert(int item)
15      {
16          if(front == 0 && rear == max-1)
17          {
18              System.out.println("THE CIRCULAR QUEUE IS FULL");
19          }
20          else if(front == -1 && rear ==-1)
21          {
22              front=rear=0;
23              cq[rear]=item;
24          }
25          else if(rear == max-1)
26          {
27              rear = 0;
28              cq[rear]=item;
29          }
30          else
31          {
32              rear++;
33              cq[rear]=item;
34          }
35      }
36      void delete()
37      {
38          if(front == -1)
39          {
40              System.out.println("THE CIRCULAR QUEUE IS EMPTY");
41          }
42          else if(rear==front)
43          {
44              System.out.println("THE ITEM DELETED IS : "+cq[rear]);
45              front=rear=-1;
46          }
47          else if(front==max-1)
48          {
49              System.out.println("THE ITEM DELETED IS : "+cq[front]);
50              front = 0;
51          }
52          else
53          {
54              System.out.println("THE ITEM DELETED IS : "+cq[front]);
```

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55         front++;
56     }
57 }
58 void display()
59 {
60     if(front == -1 && rear== -1)
61     {
62         System.out.println("THE CIRCULAR QUEUE IS EMPTY");
63     }
64     else if(front>rear)
65     {
66         System.out.println("THE CIRCULAR QUEUE IS :");
67         for(int i=0;i<=rear;i++)
68         {
69             System.out.println(cq[i]+" ");
70         }
71         for(int i=front;i<=max-1;i++)
72         {
73             System.out.println(cq[i]+" ");
74         }
75     }
76     else if(front<rear)
77     {
78         System.out.println("THE CIRCULAR QUEUE IS :");
79         for(int i=front;i<=rear;i++)
80         {
81             System.out.println(cq[i]+" ");
82         }
83     }
84     else if(front == rear)
85     {
86         System.out.println("THE CIRCULAR QUEUE IS :");
87         System.out.println(cq[front]+" ");
88     }
89 }
90 }
```