

```

1  //JAVA Program to reverse the queue without using any additional storage.
2
3  import java.util.concurrent.DelayQueue;
4
5  class Queue{
6      int size;
7      int front, rear;
8      int a[];
9
10     Queue(int size)
11     {
12         this.size = size;
13         a = new int[size];
14         front = -1;
15         rear = -1;
16     }
17
18     void enqueue(int data)
19     {
20         if(rear == size-1)
21         {
22             System.out.println("Overflow");
23         }
24         else
25         {
26             if(front == -1)
27             {
28                 front = 0;
29             }
30             rear = (rear + 1)%size;
31             a[rear] = data;
32         }
33     }
34
35
36     void reverse(int front)
37     {
38         if(front != -1)
39         {
40             int x = dequeue();
41             reverse(this.front);
42             enqueue(x);
43         }
44         else
45             return;
46     }
47
48     void display()
49     {
50         for(int i = front; i<=rear; i++)
51         {
52             System.out.print(a[i] + " ");
53         }
54         System.out.println();
55     }
56
57     int dequeue()
58     {
59         if(front == -1)
60         {
61             System.out.println("Underflow"); return -1;
62         }
63         else
64         {
65             int y = a[front];
66             if(front == rear)
67             {

```

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68         front = -1;
69         rear = -1;
70     }
71     else
72     {
73         front = (front +1)%size;
74     }
75     return y;
76 }
77 }
78 }
79
80 class ReverseQueue
81 {
82     public static void main(String args[])
83     {
84         Queue q= new Queue(5);
85         q.enqueue(1);
86         q.enqueue(2);
87         q.enqueue(3);
88         q.display();
89         q.reverse(q.front);
90         q.display();
91     }
92 }

```