```java
package queue;
import java.util.Scanner;

public class CircularQueue {


    // the crux of the circular queue is the formula.  (rear + 1) % size == front queue is full in this case;


    static int front=-1,rear=-1;
    static int max = 5;
    static int q[] = new int[max];

    static boolean enqueue(Scanner sc) {

        if(front == max - 1)   // check for full
            System.out.println("Queue is full pls delete some elements");

        else if(front == -1)   // check if empty
        {
            front = rear = 0;
            System.out.println("Please enter some value to the queue");
            int val = sc.nextInt();
            q[rear] = val;
        }
        else {                          // normal insert value at calculated place in circular queue.
            rear = (rear + 1) % max;
            System.out.println("Please enter some value to the queue");
            int val = sc.nextInt();
            q[rear] = val;
        }

        return true;
    }

    static boolean dequeue() {

        if(front == -1)
            System.out.println("Queue is empty there is nothing to delete....");
        else if(front == rear)
        {
            front = rear = -1;
            System.out.println("Last element is deleted from the queue.");
        }
        else {
            System.out.println(q[front] +" data deleted from the front.");
            front = (front + 1) % max;

        }
        return true;
    }

    static boolean display() {

        if(front == -1)
```

```
56              System.out.println("queue is empty plese eneter some values before displaying.");
57          else
58          {
59              for(int i = front ; i<= rear ; i++)
60                  System.out.println(q[i]);
61          }
62          return true;
63      }
64      public static void main(String[] args) {
65
66          Scanner sc = new Scanner(System.in);
67          int ch=0;
68          do
69          {
70              System.out.println("Enter 1. to insert values.  2. to delete a value.  3. to
    display the values inside the queue");
71              ch = sc.nextInt();
72
73              if(ch ==1)
74                  enqueue(sc);
75              else if(ch == 2)
76                  dequeue();
77              else if(ch == 3)
78                  display();
79              else
80                  System.out.println("Invalid input!!");
81          }while(ch <= 3 && ch > 0);
82
83
84      }
85
86  }
87
88  /****************
89   * OURPUT ***************************
90   *
91   * Enter 1. to insert values. 2. to delete a value. 3. to display the values
92   * inside the queue 1 Please enter some value to the queue 12 Enter 1. to insert
93   * values. 2. to delete a value. 3. to display the values inside the queue 1
94   * Please enter some value to the queue 15 Enter 1. to insert values. 2. to
95   * delete a value. 3. to display the values inside the queue 3 12 15 Enter 1. to
96   * insert values. 2. to delete a value. 3. to display the values inside the
97   * queue 2 12 data deleted from the front. Enter 1. to insert values. 2. to
98   * delete a value. 3. to display the values inside the queue 2 Last element is
99   * deleted from the queue. Enter 1. to insert values. 2. to delete a value. 3.
100  * to display the values inside the queue 2 Queue is empty there is nothing to
101  * delete.... Enter 1. to insert values. 2. to delete a value. 3. to display the
102  * values inside the queue 3 queue is empty plese eneter some values before
103  * displaying. Enter 1. to insert values. 2. to delete a value. 3. to display
104  * the values inside the queue 4 Invalid input!!
105  *
106  */
```