Write a Java program to find the maximum and minimum value node from a circular linked list

```
public class MinMax {
    //Represents the node of list.
    public class Node{
        int data;
        Node next;
        public Node(int data) {
            this.data = data;
        }
    }

    //Declaring head and tail pointer as null.
    public Node head = null;
    public Node tail = null;

    //This function will add the new node at the end of the list.
    public void add(int data){
        //Create new node
        Node newNode = new Node(data);
        //Checks if the list is empty.
        if(head == null) {
             //If list is empty, both head and tail would point to new node.
            head = newNode;
            tail = newNode;
            newNode.next = head;
    }
    else {
        //tail will point to new node.
        tail.next = newNode;
        //New node will become new tail.
        tail = newNode;
        //Since, it is circular linked list tail will points to head.
        tail.next = head;
    }
}

//Finds out the minimum value node in the list
public void minNode() {
    Node current = head;
    //Initializing min to initial node data
    int min = head.data;
    if(head == null) {
        System.out.println("List is empty");
    }
    else {
         do{
            //If current node's data is smaller than min
            //Then replace value of min with current node's data
            if(min > current.data) {
                min = current.data;
```

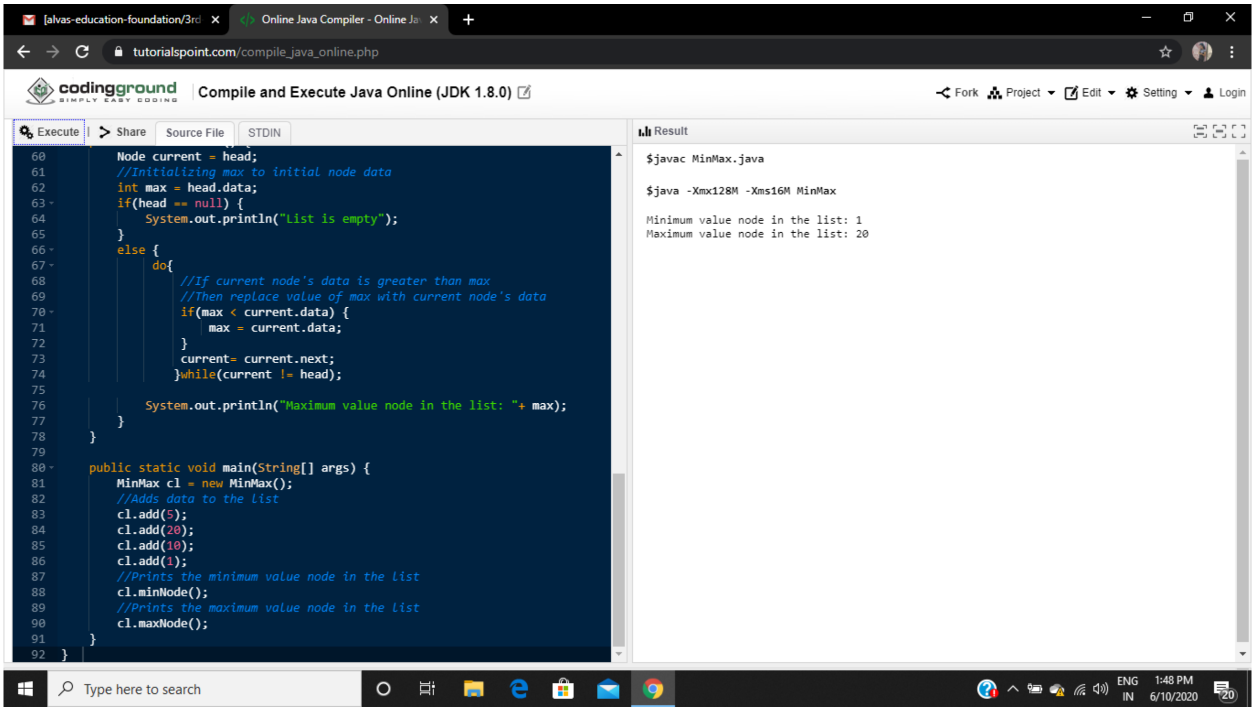
```
       }
       current= current.next;
    }while(current != head);

    System.out.println("Minimum value node in the list: "+ min);
  }
}

//Finds out the maximum value node in the list
public void maxNode() {
  Node current = head;
  //Initializing max to initial node data
  int max = head.data;
  if(head == null) {
    System.out.println("List is empty");
  }
  else {
     do{
       //If current node's data is greater than max
       //Then replace value of max with current node's data
       if(max < current.data) {
         max = current.data;
       }
       current= current.next;
      }while(current != head);
```

```
            System.out.println("Maximum value node in the list: "+ max);
        }
    }

    public static void main(String[] args) {
        MinMax cl = new MinMax();
        //Adds data to the list
        cl.add(5);
        cl.add(20);
        cl.add(10);
        cl.add(1);
        //Prints the minimum value node in the list
        cl.minNode();
        //Prints the maximum value node in the list
        cl.maxNode();
    }
}
```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```
        Node current = head;
        //Initializing max to initial node data
        int max = head.data;
        if(head == null) {
            System.out.println("List is empty");
        }
        else {
             do{
                 //If current node's data is greater than max
                 //Then replace value of max with current node's data
                 if(max < current.data) {
                     max = current.data;
                 }
                 current= current.next;
                }while(current != head);

            System.out.println("Maximum value node in the list: "+ max);
        }
    }

    public static void main(String[] args) {
        MinMax cl = new MinMax();
        //Adds data to the list
        cl.add(5);
        cl.add(20);
        cl.add(10);
        cl.add(1);
        //Prints the minimum value node in the list
        cl.minNode();
        //Prints the maximum value node in the list
        cl.maxNode();
    }
}
```

```
$javac MinMax.java

$java -Xmx128M -Xms16M MinMax

Minimum value node in the list: 1
Maximum value node in the list: 20
```