Practice assisted project phase 1

6. Write a program in Java to insert a new element in a sorted circular linked list

```
package main;

public class Node {
		int data;
		Node next;

		Node(int d)
		{
			data = d;
			next = null;
		}
	}

	class LinkedList
	{
		Node head;

		// Constructor
		LinkedList() { head = null; }

		/* function to insert a new_node in a list in sorted way.
		Note that this function expects a pointer to head node
		as this can modify the head of the input linked list */
		void sortedInsert(Node new_node)
		{
			Node current = head;

			// Case 1 of the above algo
			if (current == null)
			{
				new_node.next = new_node;
				head = new_node;

			}

			// Case 2 of the above algo
			else if (current.data >= new_node.data)
			{

				/* If value is smaller than head's value then
				we need to change next of last node */
				while (current.next != head)
					current = current.next;

				current.next = new_node;
				new_node.next = head;
				head = new_node;
			}

			// Case 3 of the above algo
			else
			{

				/* Locate the node before the point of insertion */
```

```
                        while (current.next != head &&
                               current.next.data < new_node.data)
                               current = current.next;

                        new_node.next = current.next;
                        current.next = new_node;
                }
        }

        // Utility method to print a linked list
        void printList()
        {
                if (head != null)
                {
                        Node temp = head;
                        do
                        {
                               System.out.print(temp.data + " ");
                               temp = temp.next;
                        } while (temp != head);
                }
        }

        // Driver code to test above
        public static void main(String[] args)
        {
                LinkedList list = new LinkedList();

                // Creating the linkedlist
                int arr[] = new int[] {12, 56, 2, 11, 1, 90};

                /* start with empty linked list */
                Node temp = null;

                /* Create linked list from the array arr[].
                Created linked list will be 1->2->11->12->56->90*/
                for (int i = 0; i < 6; i++)
                {
                        temp = new Node(arr[i]);
                        list.sortedInsert(temp);
                }

                list.printList();
        }
}
```

OUTPUT-