**Phase 1 Practice Project – Assisted Practice**

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

**Source Code:**

package slm2;

class Node {

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int data;

Node next;

Node(int data) {

this.data = data;

this.next = null;

}

}

class CircularLinkedList {

Node head;

CircularLinkedList() {

head = null;

}

// Function to insert a new node into a sorted circular linked list

void insertSorted(int data) {

Node newNode = new Node(data);

if (head == null) {

newNode.next = newNode;

head = newNode;

} else if (data <= head.data) {

Node current = head;

while (current.next != head) {

current = current.next;

}

newNode.next = head;

head = newNode;

current.next = head;

} else {

Node current = head;

while (current.next != head && current.next.data < data) {

current = current.next;

}

newNode.next = current.next;

current.next = newNode;

}

}

// Function to print the circular linked list

void printList() {

if (head == null) {

System.out.println("Circular Linked List is empty.");

return;

}

Node current = head;

do {

System.out.print(current.data + " ");

current = current.next;

} while (current != head);

}

}

public class Main {

public static void main(String[] args) {

CircularLinkedList list = new CircularLinkedList();

list.insertSorted(5);

list.insertSorted(2);

list.insertSorted(7);

list.insertSorted(3);

list.insertSorted(1);

System.out.println("Sorted Circular Linked List:");

list.printList();

}

}

**Output:**

