PRACTICE-PROJECT6

TO INSERT A NEW ELEMENT IN A SORTED CIRCULAR LINKED LIST –

**package** practice;

**import** java.util.Scanner;

**public** **class** CircularLinkedList {

**static** **class** Node {

**int** data;

Node prev;

Node next;

Node(**int** data) {

**this**.data = data;

**this**.prev = **null**;

**this**.next = **null**;

}

}

Node head = **null**;

Node tail = **null**;

**public** **void** insert(**int** data) {

Node newNode = **new** Node(data);

**if**(head == **null**) {

head = newNode;

tail = newNode;

newNode.next = head;

newNode.prev = tail;

}

**else** {

newNode.prev = tail;

tail.next = newNode;

tail = newNode;

tail.next = head;

}

}

**public** **void** sort() {

Node currentNode = head;

Node temp = **null**;

**if**(head == **null**) {

System.***out***.println("The list is empty.");

}

**else** {

**while**(currentNode.next != head) {

temp = currentNode.next;

**while**(temp != head) {

**if**(currentNode.data > temp.data) {

**int** val = currentNode.data;

currentNode.data = temp.data;

temp.data = val;

}

temp = temp.next;

}

currentNode = currentNode.next;

}

}

}

**public** **void** print() {

**if** (head == **null**) {

System.***out***.println("Your list is empty");

}

**else** {

sort();

Node currentNode = head;

**do** {

**if**(currentNode == tail) {

System.***out***.print(currentNode.data);

}

**else** {

System.***out***.print(currentNode.data+"->");

}

currentNode = currentNode.next;

} **while** (currentNode != head);

System.***out***.println();

}

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

**try** {

CircularLinkedList cl = **new** CircularLinkedList();

cl.insert(12);

cl.insert(7);

cl.insert(10);

cl.insert(3);

cl.insert(45);

System.***out***.println("Original list: ");

cl.print();

System.***out***.println("\nEnter value to be inserted: ");

**int** data = sc.nextInt();

cl.insert(data);

System.***out***.println("After inserting: ");

cl.print();

} **catch** (Exception e) {

System.***out***.println(e.getMessage());

}

sc.close();

}

}