Doubly Linked List

Objective

The objective of this lab is to understand List using doubly Linked list implementation.

Task/Procedure

- The implementation of Doubly Linked List uses a pair of classes. One describes the node and second represents the collection of nodes as a list structure. Use constructor as needed.

```
class Node
<T>{
T data;
Node prev;
Node next;

 Node(T d){
    data=d;
 prev=null;
 next=null;
 }
}
```

```
Public class DLinkedList<T extends
Comparable<T>>{

Node head;

DLinkedList(){
Head = null;
}

//implement the following  Methods

public void InsertInOrder(T value) { … }
public Node Find(T value) { … }
public void Delete(T value) { … }
public String toString(){ … }
public void clearList(){ … }
public boolean isEmpty(){ … }
public int Length(){ … }
public void Reverselist() { … }

}
```

```
Class Student{
  String name;
   int id;

// implement methods toString(), constructor,
                     CompareTo() and etc.

}

public class Demo {
   public static void main(String[] args) {
   DLinkedList<Integer> DL1=new DLinkedList<Integer>();
   DLinkedList<String> DL2=new DLinkedList<String>();
   DLinkedList<Student> DL3=new DLinkedList<Student>();

    // code here

   }

}
```