Lab Goal : This lab was designed to teach you more about a linked list and using a linked list in a class as an instance variable / data field.

Lab Description :

Use ListNode to write some basic LinkedList methods.

PART 1 – Open the `ListFunHouseTwo.java` file and complete the methods in this class.
PART 2 – Use the `ListFunHouseTwoRunner` to test your `ListFunHouseTwo` class.

ListNode – stores a value and a reference to the next node

```
public class ListNode implements Linkable
{
   private Comparable listNodeValue;
   private ListNode nextListNode;

   public ListNode(){
      listNodeValue = null;
      nextListNode = null;
   }

   public ListNode(Comparable value, ListNode next){
      listNodeValue=value;
      nextListNode=next;
   }

   public Comparable getValue(){
      return listNodeValue;
   }

   public ListNode getNext(){
      return nextListNode;
   }

   public void setValue(Comparable value){
      listNodeValue = value;
   }

   public void setNext(Linkable next){
      nextListNode = (ListNode)next;
   }
}
```

EXTENSION : Modify ListNode by adding in a `ListNode prevListNode` instance variable / data field. Rewrite the program as a double/circular linked list.

Files Needed ::

ListNode.java
Linkable.java
ListFunHouseTwo.java
ListFunHouseTwoRunner.java

Sample Data :

See the main of the Runner.

Sample Output :

```
Original list values
over up -a-2-1 2.1 34 at on go

num nodes = 8

List values after calling nodeCount

over up -a-2-1 2.1 34 at on go

List values after calling doubleLast

over up -a-2-1 2.1 34 at on go go

List values after calling doubleFirst

over over up -a-2-1 2.1 34 at on go go

List values after calling removeXthNode(2)

over up 2.1 at go
```

```
List values after calling setXthNode(2,one)

over one 2.1 one go
```