Exercise 5. (Dynamically allocated linked list)

A reference to the first node is capable to represent the whole list in dynamic memory, provided that the next member in the last node is NULL to indicate the end of the list. In this case the variables of class LinkedList can be defined as follows:

```
public class LinkedList<T extends Comparable<T>> {
    private Node first;
     …
}
```

When operation functions are defined for that type we get the class LinkedList. Write the following operation functions for the class LinkedList defined above

```
public LinkedList();
public void add(T item);
public String toString();
```

Start working from the given example program (LinkedList.java, available from the Tube-portal). This list is a genuine ADT including the test application. First check how the program works, then modify the class definition by removing the `*last` variable in the LinkedList class definition and modify the list implementation in such a way that it works again.