CSE 222 HOMEWORK #1

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1. Requirements

1.1. Overall Description

We must program Towers of Hanoi problem iteratively. Then We implement LinkListRec class which is in the book, and change remove method for delete all duplicate elements. Then in part3, We must program generic process which has intersection, union element and check sublist or not.

1.2. Requirement Definitions

1.2.1. Implement the Towers of Hanoi problem iteratively.

1.2.2. Implement the remove procedure from LinkListRec class but your procedure removes all duplicate elements in linked list.

1.2.3. Implement a class that have two sorted array,list1 and list2.You should write 3 recursive procedure that do some operations on these lists.

2. Analysis and Solutions Approach

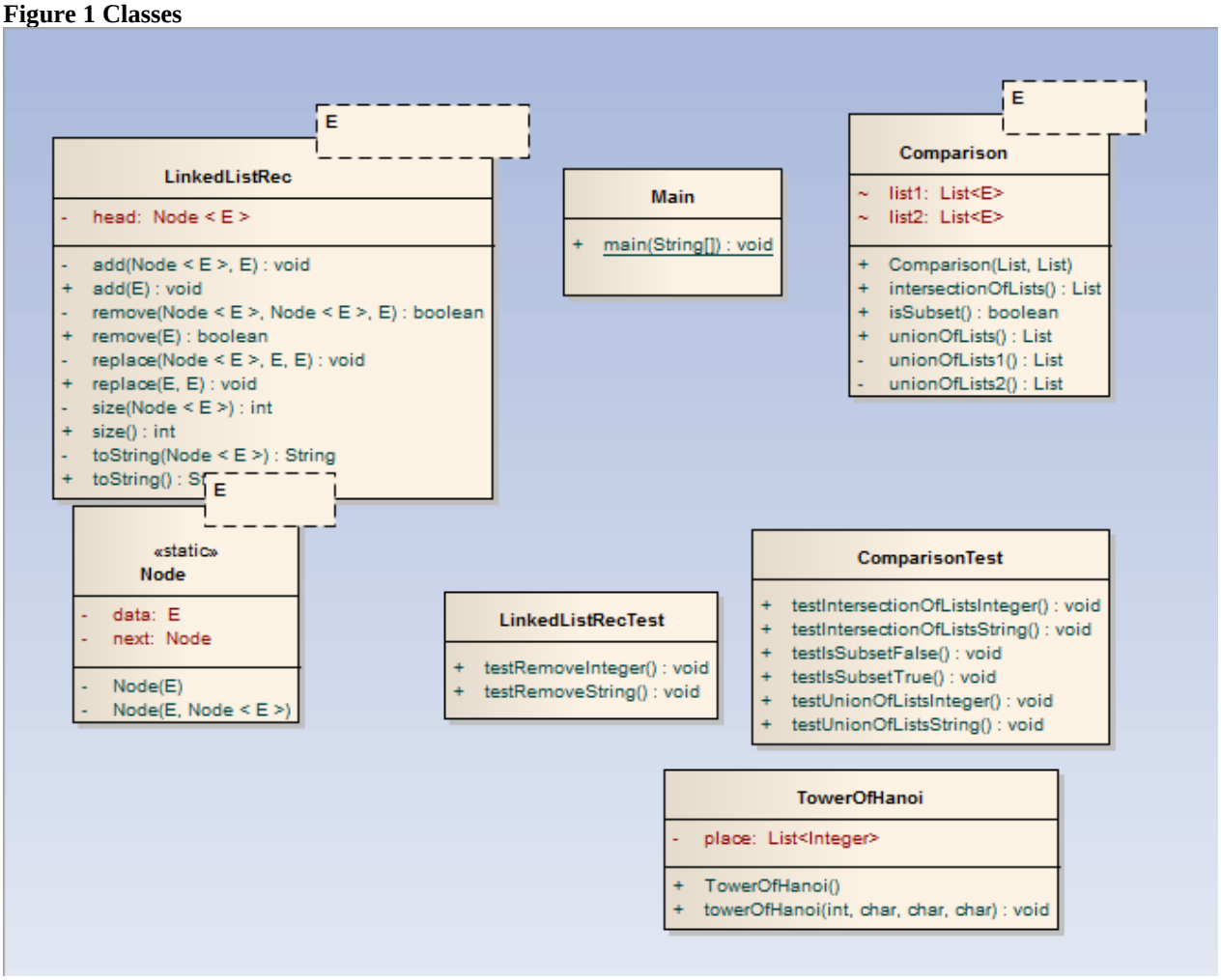
In Tower Of Hanoi, I realize that the first disc which is smaller that, always change one movement. And second disc go to next to first disc. So it has 3 place for disc, if I calculate first dics place minus to 3, it will give me where second disc go. All my algorithm based on this.

Then Part2, LinkListRec classes remove method only remove one element and return if remove, true, otherwise false. I change return true/false to recursion and add some code. So if it is remove some element, it will call with true and or logic operation. It means if it removes, it returns true.

In Part3, We program generic process which has intersection, union element and check sublist or not with recursion. I think about no parameter topic and I don't like call another function in it. So I create same object in it and call same function with less element. I program that in intersection and sublist. In union operator, I call recursion function because it look two sided.

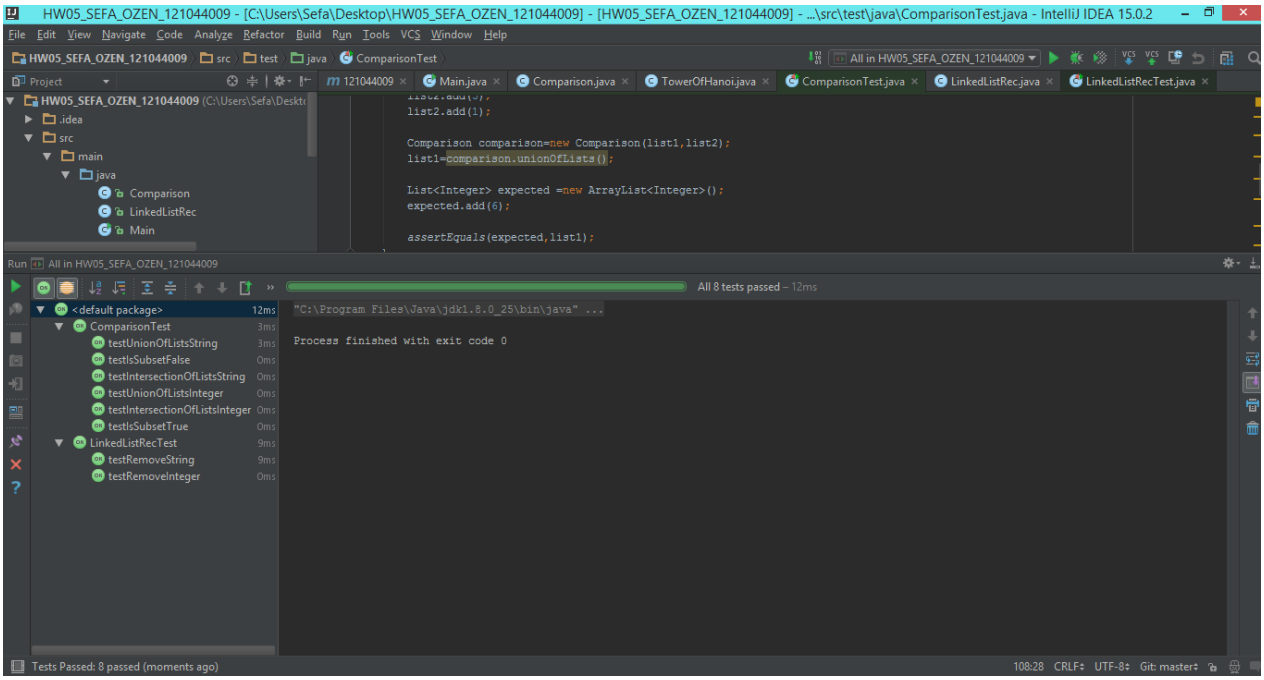
3. Class Diagrams

Figure 1 Classes



4. Tests

Figure 2 All Tests



5. Scenario

Figure 3 Scenario1, Tower Of Hanoi

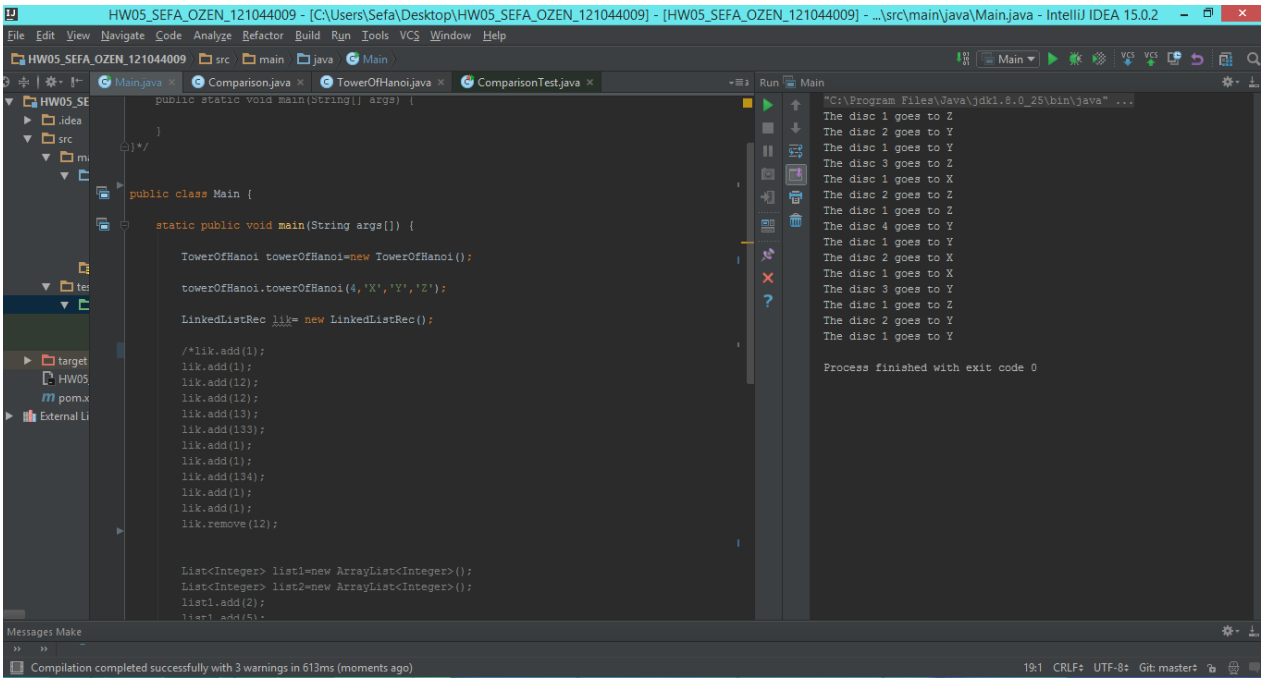


Figure 4 Scenario2-LinkListRec

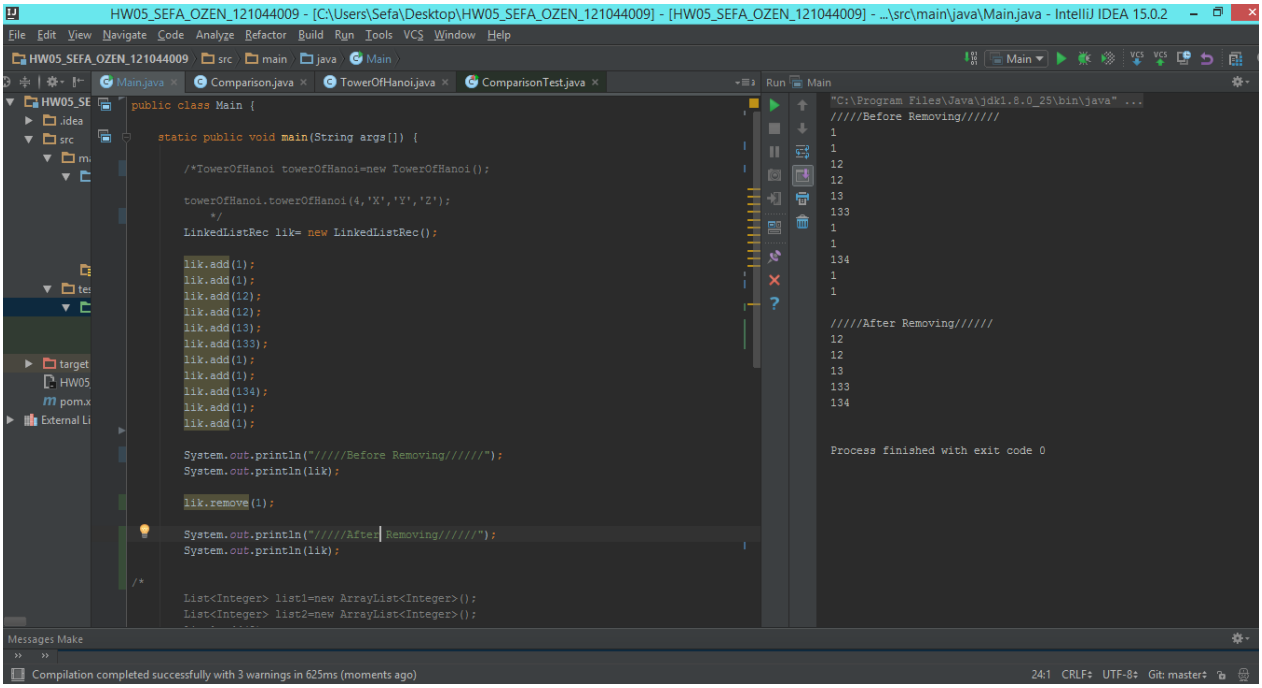


Figure 5 Scenario3 – Part3