Collections Workshop

**Set up:**

Extract the collections-workshop.zip file in a folder so that later you can push it in your branch.

To open the workshop project with IntelliJ, go to File/Open and select the warm-up folder that you just extracted from the archive.

**Exercise 0 (exercise/exercise0/Exercise0.java):**

Create a List (ArrayList or LinkedList), add elements to it and print all of them using ListIterator, for loop and foreach loop.

**Exercise 1 (exercise/exercise1/Exercise1.java):**

Compute the sum, the minimum and the maximum element from a given list (givenList) using three different ways to iterate over a List:

a) ListIterator (implement it in the iterateUsingListIterator() method)

b) for loop (implement it in the iterateUsingForLoop() method)

c) foreach loop (implement it in the iterateUsingForEachLoop() method)

**Exercise 2 (exercise/exercise2/MyList.java):**

Create a class that inherits ArrayList<Integer> (class MyList<Integer>). This list (MyList) should have the following functionality, besides the functionality that ArrayList already offers: it should retain in every moment how many different elements exist in the list.

Examples:

1. If you have a List that contains: 7 5 3 2 4 1, there are 6 different elements.

2. If you have a List that contains: 5 6 1 2 5 6, there are 4 different elements.

**Exercise 3 (exercise/exercise3/Exercise3.java):**

Fill three Set implementations that you know with the List<String> that is given to the Exercise3 class by its constructor. Check out the elements that the list mentioned above contains and then, add them to your three Sets. After this check out the elements of your Sets. What do you remark? What could be the reason? Finally, add to the one of the three Sets some elements that already exist in the Set.