Lab Tasks 10

1. Complete the methods name and matricNumber in class task0.NameAndMarticNumber.

2. The interface Comparable in Java provides a way compareTo to compare two elements. The interface ThreeWayComparable in package insertionSort contains a method threeWayCompareTo, which compares three elements, as described in the comments.

   Make use of this method in a new version of Insertion Sort, in the class ThreeWayInsertionSort. You should full use of the method threeWayCompareTo in the inner loop of Insertion Sort; instead of going down one step at a time, you should be able to go down two steps at a time, most of the time.

   Hint 1

   You can test your program using the class ThreeWayInteger as shown in the class ThreeWayIntegerTest.

   Hint 2

   The class InsertionSort contains the version presented in the lectures.

3. This question uses the same idea as the previous question, namely three-way comparison.

   Now the target is a new version of Mergesort. In order to make full use of threeWayCompareTo, your version should split the given array into three sub-array, instead of two, as in the original version of Mergesort.

   Implement the method mergeSort in class ThreeWayMergeSort. Of course you can add helper methods.

   Hint 1

   You can test your program using the class ThreeWayInteger as shown in the class ThreeWayIntegerTest.

   Hint 2

   The class MergeSort contains the version presented in the lectures.