Analysis for Assignment 2

CS 2420

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2) Java's built-in classes Comparable and Comparator are both interfaces for doing comparisons among objects. What is the difference in the two interfaces? Give a situation when it is best to use each. Is it possible to change the extra features in LibraryGeneric such that the Comparable interface is used instead of Comparator? Why or why not?

If you want to use Comparable, you have to define it in the certain class, like if you want to compare Person:

public class Person implements Comparable {...}

The structure inside of Person class had been changed.

However, Comparator does not need that, it is defined outside of Person class, so the class' structure did not change.

public class Person{ String name; int age },

Then, we create another Comparator :

public PersonComparator implements Comparator() {...}

And we complete the comparison in this method. Due to that, we need to copy the whole list, because the real comparison is did in PersonComparator. Like:

Collections.sort(personList , new PersonComparator()).

They have their own advantages, Comparable is easier, because you do not have to write another method, but you have to change the Source Code. Comparator takes more time, but it is more flexible, and you do not need to change the Source Code.

I do not think use Comparable instead of Comparator in this place is a good idea, because we do not want to change the list in Source code, because we would like to sort the list in many different ways.

3) Comment about the efficiency of your programming time. Did you utilize the time spent on this assignment effectively? How might it be improved?

   I spent 10 hours in this assignment in two days, which means 5 hours for each. That made me tired, and not very effectively. I think I could start the homework earlier and I could just do few hours for each day.

4) Reiterate why writing Generic code is important for this course. Phrase your answer in terms of Data Structures and Algorithms.

Everything in Java is an Object, Generic code can make all data structures hold Objects, and it can simplify your algorithms because of the exist of T.

5) How many hours did you spend on this assignment?

  10~12 hours for coding and 1 ~2 hours for report.