7.

7.1.

- The purpose of using interface Comparable is to apply method compareTo() to classes of the Student type hierarchy, makes them *comparable* and then we can sort them in orders. Furthermore, in class Engine, we will declare objects as a TreeSet of Student, in order to do so, according to Java API, collection type TreeSet can only be applied for classes which already have implemented Comparable or Comparator.

- The purpose of using interface Document is to apply method toHtmlDoc() to classes of the Student type hierarchy, so that objects of this type hierarchy can generate a simple HTML document from the current state of itself.

(a) Yes. We can use interface Comparator instead of Comparable.

(b)