

CPSC 319 Tutorial 08

Assignment #2 Cont'd

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A Tour

Thursday, Feb.12

- 1 Java code reading “Array-based Insertion Sort”;
- 2 Hints for implementing “Linked List-based Insertion Sort”;
- 3 Assignment #2 Questions & Answers;

Tuesday, Feb.24

- 1 Quick Review “Quick Sort”;
- 2 How to apply “Quick Sort” to an array of reference;
- 3 Java classes: “BufferedReader”, “FileReader”;

Thursday, Feb.26

- 1 Assignment #2 work period.(Questions & Answers Individually);

Quick Review: An Example

Question: How to apply quick sorting to an array of reference?

reference (*next*) is of type *node*. What's *node*? *node* is essentially an *object*. So the question is actually:

how to quick sort an array of objects?

Sample Code: compareTo.java

Before we start to quick sort an array of reference, we should know:

- *What* is a reference?
- *Where* is the key point?
- *How* to implement that?

ps: Textbook section 9.3.3 has good coverage of the quicksort as applied to an array of objects (via generic programming) as well.

For the assignment 2, java classes to read from text files,

BufferedReader, FileReader

are probably the best classes to use, since the *readline()* method of `BufferedReader` will return a line as a `String` object.

Sample Code: `bufferReader.java`

- There are many other solution to read the data from text file. *Scanner* is another famous one.
- **Main differences:**
 - Scanner is used for parsing tokens from the contents of the stream while BufferedReader just reads the stream and does not do any special parsing.
 - (JDK6) The Scanner has a smaller buffer (1024 chars) as opposed to the BufferedReader (8192 chars), more efficient.
 - More?

Sort the following 5 objects based on the ages, if the age is the same, sort them by name,

- Alice, 17
- Bob, 19
- Tom, 12
- Jordan, 12

—————This is the Output—————

Jordan, 12

Tom, 12

Alice, 17

Bob, 19

Thank you!

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