CPSC 319 Tutorial 08
Assignment #2

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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. Java code reading of "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);

Pseudocode of Insertion Sort

An outline of the insertion sort algorithm is as follows:

```
insertionsort(data[]) {
    for i = 1 to data.length−1
        tmp = data[i];
        move all elements data[j] greater than tmp by one position;
        place tmp in its proper position;
```

ps: This is the pseudo code instead of java code, i.e. the main idea of insertion sort. It could be implemented by either ***Array*** or ***Linked List***.

Array-based Insertion Sort

Here is the java code to used to sort the ***int*** array:

```
public void insertionsort(int[] data) {
    for (int i = 1,j; i < data.length; i++) {
        int tmp = data[i];
        for (j = i, j; j > 0 && tmp < data[j-1]; j--)
            data[j] = data[j-1];
        data[j] = tmp;
    }
}
```

Linked List-based Insertion Sort

Before you start to implement, consider the following questions:

1. *What's the difference between Array and Linked List?*

Then could you tell Array and Linked List, which one is better?

Questions & Answers

Thank you!

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