Data Structure 2019
Lab 02 - Performance Test

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Announcements:

- TAs: Mohammad Sadegh Najafi, Jonghyun Lee
- TA mail: ds2019ta@tcs.snu.ac.kr (grade related questions in English)
- Ask your questions on ETL Class Q&A section in English
  - Many other students might have the same question.
  - No need to make it a private post.
- Lab computer accounts (check announcements)
  - ID: cseclass / Password: cseclass (will not save any work)
- Homework and Exam codes will be compiled through Makefile
  - Please double and triple check your work!
- Attendance will be taken after you show us running code
  - You are free to leave after attendance

Today’s Task: Performance Tests

Objectives:

1) Practice reading from a file in Java
   - You must know this for future assignments and labs.
   - There are different ways to do this. Any method is fine.

2) Implement Insertion Sort

3) Measuring performance of your implemented Insertion Sort and the given Quick Sort algorithms.

Today’s Task: Performance Tests

TODO 1:

- Implement insertionSort()

TODO 2:

- Implement printArr1() and printArr2().

Today’s Task: Performance Tests

TODO 3: implement performanceTest()

- Test the performance in milliseconds for both insertionSort and quickSort
  - Use your implemented insertionSort()
  - quickSort(int[], int, int) is provided for you. The parameters are the unsorted array, the index of first element , the index of the last element)

- Print in new lines the results in the following format
  - *Insertion Sort: __ ms*
  - *Quick Sort: __ ms*

Today’s Task: Performance Tests

TODO 4: create a main function

- Read the first number in the file, “input.txt.” Lets call it “n”
- Read the next “n” numbers and store these in a array called “arr1”
- Make a copy of “arr1”. Call it “arr2”.
- Initialize Lab2 with n, arr1, and arr2.
- Call methods insertionSort(), printArr1(), printArr2(), performanceTest()

Today’s Task: Performance Tests

Expected Result

Unsorted array:
81171 26454 13017 26345 …
Sorted array:
218 450 597 …
Insertion Sort: __ ms
Quick Sort: __ ms

Today’s Task: Performance Tests

Submission:

- Name your java file “20xx-xxxxx.java”
- Make sure it compiles and runs in Command Prompt