Data Structures and Algorithms: Homework #5

Due on May 26, 2015 at 16:20

Instructors Hsuan-Tien Lin, Roger Jang

Tim Liou (b03902028)

5.1 Heap and Hash

(1) Complete Exercise R-8.24 of the textbook.

====== Pending ======

(2) Complete Exercise C-8.4 of the textbook.

====== Pending ======

(3) Complete Exercise C-8.14 of the textbook.

====== Pending ======

(4) Hash function is everywhere. Use any search engine to study the term MinHash Explain to the TAs what it is and why it is useful. Also, cite the website that you learn the term from.

====== Pending ======

(5) Describe an algorithm to find out the position that the two strings differ efficiently. Briefly discuss and justify the time complexity of your algorithm.

====== Pending ======

(6) Construct a perfect hash function that is efficiently computable for the following 32 standard keywords in C. You need to explain why the hash function is perfect and why it is efficiently computable to get the full bonus.

====== Pending ======

5.2 Distributed System

(1) Finish/rewrite the BinomialHeap class, and describe how you test whether the data structure is correct.

====== Pending ======

(2) Implement the system for three kinds of commands below.

====== Pending (code part) ======