PL12

Due Apr 18, 2019 by 3pm   **Points** 10   **Submitting** a file upload   **File Types** zip
Available Apr 16, 2019 at 3pm - Apr 18, 2019 at 3pm 2 days

This assignment was locked Apr 18, 2019 at 3pm.

Study "Introducing Hashing" (Chapter 21) and "Hashing as a Dictionary Implementation" (Chapter 22)

Enter at least one interview question into the bank of "Interview Questions" - use your alias instead of your name. Find a question on the internet that pertains to any topic that we studied in this class.

IN PREPARATION FOR THE LAB:

1. Review **"Hash Table Animated"** **(http://www.csanimated.com/animation.php?t=Hash_table)**
2. Design an algorithm to check if two files have the same elements as described in the `CheckInventory` application that we will develop in the lab
3. Refresh your memory on how to read data from a file one line at a time and how to process each line with `Scanner` object
4. Refresh your memory on how to write text to a file with `PrintWriter`
5. Consider the following pair of hash functions for a hash table that is filled using Open Addressing with ***Double Hashing*** algorithm:

   h_1(key) = keyHashCode modulo tableSize

   h_2(key) = keyHashCode modulo (tableSize - 2)

   Function h_1 is used to calculate the initial value of `index` for the `key,` where function h_2 is used to calculate the value of `step` increase for the `index` of the same `key`.

   Assume the initial **size of hash table** is **7** and the **Load Factor** is set to **.5**

   1. For the following six integer **keys**: **213**, **3**, **31**, **24**, **108**, **94** show the content of the hash table when it became full.
      - note: since the keys are integers, the `hashCode` method simply returns the key
   2. Show the content of the hash table after **rehashing**.
   3. Show the content of the hash table after the remaining keys were added.

   Be sure to include the calculations of the hashIndex and the step increase for each key.