CS 14 LAB 6
due Wednesday, November 2

Description

Problem 1: Write a put (insert) function for the Linear Probing Hash table that will take into account the possibility of hash collisions. The LinearHash class has been provided in the file lab06header.h and the put function has been left blank. Your task is to fill it. If the hash table is full, a HASH TABLE FULL exception is thrown. If the given key exists but its associated value is not the same as what is passed into the function, the old value is replaced by the new one.

Problem 2: Write a put (insert) function for the Separate Chaining Hash table that will take into account the possibility of hash collisions. The ChainedHash class has been provided in the file lab06header.h and the put function has been left blank. Your task is to fill it. If the given key exists but its associated value is not the same as what is passed into the function, the old value is replaced by the new one.

Problem 3: Write a find function for the Linear Probing Hash table. This function checks if a given key exists in the hash. If it does, the value is returned. If it doesn't, it throws a KEY NOT FOUND exception.

Problem 4: Write a find function for the Separate Chaining Hash table. This function checks if a given key exists in the hash. If it does, the value is returned. If it doesn't, it throws a KEY NOT FOUND exception.

Submission

In addition to demonstrating your work to the TA, you must submit your work as follows.

Gzip together your .h and .cpp files. Upload the .gz file to iLearn via the Lab 6 link. The linux command for compressing files is

```
tar -cvzf studentID.tar.gz space-separated-list-of-files-to-include
```

Grading

The lab is graded on a 100-points scale. Points are equally distributed among the problems.