**Lab 07**

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**Class:** COSC 320 – Section 751

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**Lab Report:** The hash table lab has been the toughest one so far. This is mainly due to my slow learning process of this data structure, but I think I made something effective and understand hash tables a little better now. This took me about 2 and a half hours (a half an hour to go through the header files and really understand them (and reviewing fstream), an hour to write up “working” code, and an hour to make it function as intended). This lab was done 100% (with the exception of the given header files and functions) independently with no help from any outside sources.

*NOTE: I did not include the test of the spelltst.txt file, but it worked as it was intended.*

**NO PRELAB CONTENT**

**Lab:**

**Task 2:**

**lab\_07.cpp:**

#include<iostream>

#include<fstream>

#include<stdio.h>

#include<locale>

#include"d\_hash.h"

#include"d\_hashf.h"

ifstream& getWord(ifstream& fin, string& w)

{

char c;

w = ""; // clear the string of characters

while (fin.get(c) && !isalpha(c))

; // do nothing. just ignore c

// return on end-of-file

if (fin.eof())

return fin;

// record first letter of the word

w += tolower(c);

// collect letters and digits

while (fin.get(c) && (isalpha(c) || isdigit(c)))

w += tolower(c);

return fin;

}

int main(){

puts("Lab 07:");

std::ifstream dict, user, full;

std::string name,text;

//user inputs file name

printf("Please enter the file name:");

getline(std::cin,name);

user.open(name,std::fstream::in);

full.open(name,std::fstream::in);

//checks if the file is in the directory

//if yes continues::if no prints error message

if(user.is\_open()){

dict.open("dict.dat",std::fstream::in);

myhash<string,hFstring> diction(1373);//initializes hash table with 1373 buckets

//inserts all the words from dict.dat file

while(dict){

getWord(dict,text);

diction.insert(text);

}

dict.close();

//prints out the entire statement in the user's file

puts("\nText in file:");

while(getline(full,text))

std::cout<<text<<std::endl;

full.close();

puts("=====================================================");

//searches through the hash table for correctly spelled word

//if not found in the table->prints the current word

puts("Misspelled words:");

while(user){

getWord(user,text);

if(diction.find(text)==diction.end())

std::cout<<text<<std::endl;

}

puts("");

user.close();

}

else

puts("ERROR! Could not open file.");

return 0;

}

**Output w/test1.txt:**

Lab 07:

Please enter the file name:test1.txt

Text in file:

Hello! My nmae si Will Townsend.

I lvei in Salisbury Maryland and

I lvoe ot fode

=====================================================

Misspelled words:

nmae

si

lvei

lvoe

ot

fode

**Output w/test2.txt:**

Lab 07:

Please enter the file name:test2.txt

Text in file:

Clhoe si a dear friend of

mnie who lives ni Pennsylvania

Seh sese me every os otfne at

chsool

=====================================================

Misspelled words:

clhoe

si

mnie

lives

ni

seh

sese

os

otfne

chsool

**Output w/test3.txt:**

Lab 07:

Please enter the file name:test3.txt

Text in file:

I have fun

She and I have fun

He and I have fun

We have fun

=====================================================

Misspelled words: