**C243 – Assignment 5**

**Create hash tables based on the STL vector and list classes.**

**Due Date: Thursday, Feb. 28, 2013, by 9:30pm.**

**Program description**

The program reads in a list of words terminated by a Ctrl-D (end of file) and performs an indexing of these words using two hash tables.

The program first reads in a list of common words from the file stop\_words and stores them in a hash table (stoplist).

In the second part, the program inputs from the console the list of words entered by the user. For each of them, it calls the functions to\_lower\_case and then clean which convert the word to lowercase and then remove all the spaces and punctuation from them.

At this point the program checks if the words are in the list of common words. If they are, they will simply be discarded. If they are not, then they are processed by the Porter transform (function strip\_affixes) which removes prefixes and suffixes to keep only the root of the words.

A second table will keep count of the frequency of each particular root in the text entered by the user. Thus, it will store the root and the number of times it has encountered it (from the same word or from different words). At the end of the input text, the program displays a statistic of word frequencies.

The program is not functioning yet. Some functions in the class HTable have not yet been implemented.

Yourjob is tocomplete the implementation of the class HTable with the functions that don't have a proper implementation yet. Inside the body of these functions you'll find a comment saying that the code must be supplied by the student. Read the comments in front of each function carefully for details about their implementation.

For the hashing function, you can choose any function you want. I suggest selecting the function recommended as "good" by the notes.

**Getting started:**

Create a new folder **ass5** under your **c243** folder. Copy all files from my folder:

**/home/mscheess/c243s13/p5**

We will go thru the existing code briefly in class today, but go thru this code yourself in order to see how things are done and to get a feel for what you will need to add to the code to fully implement the hash table class. Also, review the STL **vector** and **list** classes. In addition, review the **string** class. Your C101/C201 text by Savitch (Absolute C++) should be useful for this purpose.

**What to turn in:**

* **hardcopy and Oncourse Dropbox copy of hash\_table.cc**
* **hardcopy of a test run**