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InLab06 - inlab6.pdf
3/15/16

1. Yes, my implementation produced the correct outputs when comparing the results to the output files provided. However, I did have to reformat spacing after printing the coordinates and before the found word needed to be adjusted to exactly resemble the format of the output file. '-w' seemed to fix this issue. I also needed to sort the words so that the order of the words was concurrent in each file using the 'sort' command.

2. Using the -O2 flag made the program run twice as fast, cutting the time in half.
   Without flag = 6.16735 seconds
   With flag = 3.12724 seconds

3. Running on Mac OS:
   250x250 = 26,013 words in 10.4793 seconds
   300x300 = 2,855 words in 6.16735 seconds

   With -O2 flag:
   250x250 = 6.5295 seconds
   300x300 = 3.12724 seconds

4. Worst case Big-Theta Running Speed = r + c^4 + w
   Columns are to the power of the 4 because of the quadruple nested for loop.
   Where w is the maximum word size and is a small constant.

5. Some problems that I encountered were minor details involving implementation of the hash table had great impact on overall program correctness. For example, remembering to resize the size of the hash table to a higher prime number and incrementing the number of words found. I also had issues reading in the dictionary file into the hash table, I needed to become more familiar with ifstream and converting to c string in order to get wordPuzzle to work. I attempted to deal with collisions with a previous implementation but instead altered implementation type for the table to vector< list <string> > so that when inserting into the hash table, referring to the contains method takes care of collisions.

6. The tutorial was unclear in explaining that the .cpp files needed to be compiled before running the shell script. Writing the shell script was not too difficult, much simpler than I anticipated. I think that shell scripting is an efficient way to pull certain information from an aggregate of files and to output a specific result (time in this lab). I would like to learn more ways shell scripting is used in practical coding.