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October 18, 2017
Inlab6.pdf

1. My implementation produced the correct results. The order and spacing were not correct though. My cout for words found was not exactly what resembled the output file. I had to fix that up a little bit. I had to sort the words by using the sort command recommended in the lab folder provided. Not only that, I used the -w for the white space for it to match perfectly.

2. I ran my program on a Microsoft Windows 10 with Intel® Core™ i3-3225 CPU using Linux by a virtual box. Without the -O2 flag my program was using a -g that gave me a time of 10.3393 seconds on words.txt and 250x250 grid. With the -O2 flag my program executed at 6.75991 seconds for the same grid and dictionary. It was about 35% increase of speed than without the flag.

3. For the 250x250 grid it executed at 6.75991 seconds. For the 300x300 grid with words2 it ran at 1.78661 seconds.

4. Big-Theta running speed is r*c*w by just looking at the nested for loops.

5. At first, I tried to implement my own hash function instead of the one in lecture. It took more than a minute so I decided to not use that hash function. That did not go too well. The program was running for a long time I eventually closed it. Not only that, I then used an int for the hash value, but decided to go with an unsigned int. When I was using the int I started the loop with a hash value of zero. Instead of starting from zero I started from one, for the change to unsigned

int. When I started from zero it made my program run very slowly. But when starting from one it greatly increased the finding time for my program. When checking if the number was a prime I was going to use the #include math that was available to do the square root but decided to use a loop that might help out with the run time.

6. I think the shell scripting was interesting and different. It is annoying that the shell scripting is particular in the spacing. When I was running the average I couldn't understand why it wasn't calculating and just showing my total/5. It was because for the division I had to be weary of the spacing. I didn't like that I could only perform arithmetic on two variables at a time. It seemed time consuming.