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Lab 108  
In-Lab report

Yes, my implementation produced the correct results. When comparing the outputs, I did use sort to make sure they were the same. Significantly faster, it shaved off 2 seconds when I ran 250x250.grid.txt with the -O2 flag. I ran it on my laptop and for 250x250.grid.txt got 8.34338 seconds, and for 300x300 at 9.86517 seconds.

I used rows and columns in two for loops, and then if a match was found I used a linear time hash table (amortized constant). The big theta running speed would be  $\theta(r * c * w)$  in the worst case that a word is found on every loop iteration and that all the words are stored in one cell in the hash table.

I encountered many problems but they were mostly syntax errors. I struggled at first on how to use the STL linked list inside of my vector for the hashtable. I also had the same words in the same directions printing out multiple times, so I had to edit on of the functions given to us. I am glad I finally understand what bash is and how to write a shell script. I had errors because I was using doubles instead of integers in my arithmetic.