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COSC 3020

Project Four Task Four

As can be seen on the excel spreadsheet, this piece of code grows quite rapidly. On average it ran 11 times more slowly every time the size doubled. This running time is probably about O(n^3logn), which is pretty bad. In the best case we expected O(n^2logn). Our worst cases can take quite a while as well. This is still far better than a naïve brute force calculation but still isn’t fantastic.

There were many difficulties when we were working on this code. Talon struggled a great deal figuring out what the book was doing in its example and then Wyatt finally figured it out. One thing that threw us off was the mirroring affect. Sometimes the result wouldn’t be quite right, but this was due to this mirroring, which took us a while to figure out. This was the hardest program so far and quite a challenging piece of code. The algorithm itself did not work many, many times and was rewritten quite a few times. This problem was overcome by trying many different things, and finding those little errors. Reading the book also helped a bunch. Finally in the end Wyatt figured it out. YAY!

Written reports were done by Talon after being talked about together. The plan of how to create problems to use to test was provided by Dr. Bailey. The layout, architecture, and functionality of the program was completed by Wyatt. The final algorithm was worked on by both, but Wyatt was the one that actually got it to work. Talon did the timing analysis and final report.