**CSCE 4133 – Algorithms**

**Programming Project Report**

Names:

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**Academic Integrity Statement:** I pledge that I have neither given nor received unauthorized help on this programming assignment.

**Problem Statement:**

For this project, I was tasked with implementing binary search tree to store data in order so that we can search or find the minimum value quickly. The starter code was provided by Dr. Luu.

**Implementation:**

We started with the sample code from the HW2 review. The pseudo code was very helpful, and provided most of the info we needed. The noticeable differences between the pseudo code and our methods were that we correctly implemented a path size limit based on the number of buildings passed into our functions. Our BFS program was also a little bit different from the pseudo code provided, since we needed to implement a way to keep track of the number of shortest paths. We did this with a length and shortest path vector, which tracked and returned the number of shortest paths.

**Testing:**

All the makefile instructions as well as the compilation commands were given to us in the review and instructions. We also were given the required test cases to find . This means that the only testing we had to do was run the program with the given commands. This streamlined our testing process, meaning that we could “test” the program in seconds. I am extremely grateful for this.

**Conclusions:**

Overall, everything worked up until the unit test with graph. I started getting an out of bounds error from mingw. The error code is “Error – 1073741819”. Though the insert and find were working correctly, so I am not quite sure why I am getting an error from the graph, as I did not touch it.