Project 3 Report

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Algorithm 1

Algorithm 2, Network Delay Time was a tricky algorithm to implement once arriving at the coding section of the process. Creating the pseudocode for the algorithm proved to be easy as the program itself is checking for how delay there is within the network when selecting a source node. A simple for loop that loops through specifically all the node entries to compare the source node to the signal node and keeping track of the total delay when this match occurs. Starting the counter at -1 to be sure that if there were no matches to occur then return -1 to show that no nodes received the signal. With the implementation of a single for loop, the time complexity comes out to be O(n) or linear time based on the number of nodes present within the network. Space complexity O(1) or constant as there is no large scaling forms of data being created and just a counter that is used to keep track of the total delay.