

Lab1 Report

buildGraph function is to read the input file and transfer the information of edges in to two dimensional vector of integer. The number of nodes should be the length of the first one dimensional vector. In some cases, the length of the two dimensional vector is bigger than the number of nodes.

BellmanFord function is the core function to implement the algorithm to find shortest path from the start node to every other node. Three layered loops are used. Depending on different output, there are outputDis function to output shortest paths and distances and outputNeg to output all the negative cycles. Both are called in BellmanFord function.

To reduce duplicate codes, getPath function was created to return the path vector from 0 to the current node.