**CPSC 441 Assignment 3 – By Adam Berlak**

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To compile ensure the path file is in the same directory as the hobbit file. And write the following:

* gcc Reunion.c –o reunion

To run the code you must specify a file name containing the topology of the graph, with all the connections

* ./reunion canadamap.txt

My program can generate one table at a time and uses Dijkstra’s algorithm to determine the optimal path. The optimal path depends on your setting for the method variable.

* Method = 2, ensures all paths have the shortest distance
* Method = 3, ensures all paths have the shortest time
* Method = 4, ensures all paths have the smallest number of gold collected
* Method = 5, ensures all paths have the smallest number of trolls encountered
* Method = 6, ensures the smallest number of hops between two vertices

The same algorithm is used to generate the shortest hop, distance time and troll paths as the only variation in the code is the number representing the distance between links. For hops this Is one, and for all others this is based off the topology array. For this reason each algorithm has the same relative performance.