

ASSIGNMENT 3: THE HOBBIT REUNION

CPSC 441 - Tutorial 9

Winter 2018

GENERAL STEPS

1. Read Map file line by line (e.g. fscanf) – each line consists of 6 parts: source, dest, dist, delay, gold, troll
2. Source and destination are letters like 'C', 'E'. It is easier to work with numbers instead of letters, so you can calculate node number like this: `int src=source-'A'`
3. Then you need to store distance/delay/gold/troll values in a structure. Most common structure is a 2 dimensional array (rows=nodes, columns=nodes)

GENERAL STEPS

4. Choose your routing algorithm – we suggest Dijkstra
5. Write a function for your routing algorithm and test it separately
6. Define cost of links due to the specific routing algorithms (SHP, SDP, STP, FTP) for example for SHP the cost for each link is one
7. Cost of links could be a 2-D array (nodes-nodes)

GENERAL STEPS

8. Then read homes text file to find out end to end source destinations
9. You can use an array of struct in order to store information about dwarves' trips
10. Run the routing algorithm with given costs and write the results to an output file like the one provided on the course website
11. Don't forget to provide performance analysis of different routing algorithms and their tradeoffs