

CS 430
Department of Computer Science
Illinois Institute of Technology
Fall 2016
Project
Due Date 11/30/2016

Instruction:

This is an individual project. You need to submit your runnable program. Thus, I can run your programs on my computer. You also need to submit instructions with the program that will guide me how to run the program.

I'll have some test cases to check your programs. Your program will produce proper results those will clearly state what is the output.

All students in Computer Science department have to take this project.

Project Summary:

New York subway system can be represented by a graph where a node is a station and an edge is a path between two stations.

A traveler might look for a shortest path (which takes minimum time) from one station, A to another station B.

You need to write a program which will take a graph of New York subway system, a source station and a destination station. Your program will compute the shortest path from stations A to station B.

You also need several other inputs which are: stoppage durations of each train at every stations (take average stoppage duration of each train for every station), running time from one station to another station of each train. Departure time and arriving time of each train at every station. Finally, your transfer time from one train to another (take average walking speed of a person). Remember, some transfers take long time. You might need to walk several minutes to reach other platform. These all represent factors or weights in the graph.

There are two types of trains in NY subway: local and express. Local trains stops every station however, an express train does not stop at every stations. You need

to consider both type of trains.