

CS2443 HW Three

Deadline: Apr 27, 2025

1. **Input:** The input consists of a weighted, directed graph as a text file in the following format: each line consists of a comma-separated triple u, v, w , where (u, v) is an edge and w is the weight of that edge.

Accept the name of the input file, and the labels of two vertices s, t .

Output: A shortest path from s to t , and its weight.

Submit a single file (one program file or one zip file with multiple program files) and name your submission file with your roll number.

Sample Input: Your program will be tested on the file "airline_distances.txt". Vertex labels correspond to airport IDs and edge weights correspond to distances.

Example input: $s = 12087, t = 3469$.

Possible output: A shortest path is 12087, 3043, 3382, 3364, 3469 with distance 14293 km.

Additional Information: The file airports.csv contains the airport codes/IDs and name of the airports, and is for reference only. For example, 12087 corresponds to Hyderabad International Airport, and 3469 to San Francisco International Airport.

Source of the sample input: <https://www.kaggle.com/datasets/alrenreuel/airport-network>