



# Introduction to Algorithms

## Module 10.5: Practice Day 01

(Practice Questions)

### Topics:

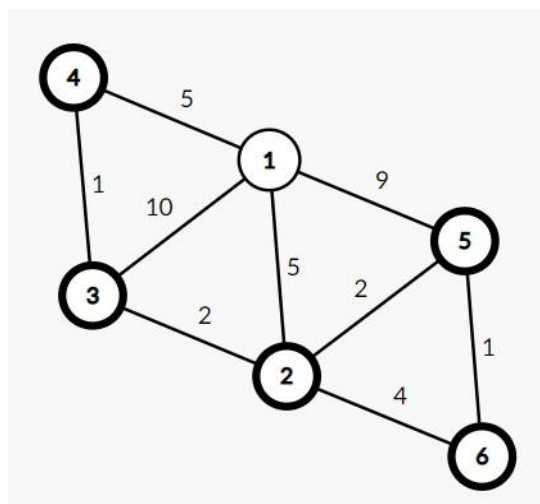
1. Dijkstra Algorithm

**Question :** You will be given an **undirected weighted** graph. At first you will be given N, the number of nodes then you will be given M, the number of edges. The value of nodes are from 1 to N. Next M lines will contain A, B and W which means there is an edge from A to B where the cost is W. There will be no negative weight in the graph.

Also, you will be given a source and a destination. You need to tell the shortest distance between source and destination.

Sample Input	Sample Output
6 9 1 2 5 2 3 2 1 3 10 3 4 1 4 1 5 1 5 9 5 6 1 2 6 4 2 5 2 4 6	6

The shortest path is 4-> 3-> 2-> 5-> 6, so the shortest distance is 6.



**Question :** You will be given a **directed weighted** graph. At first you will be given N, the number of nodes then you will be given M, the number of edges. The value of nodes are from 1 to N. Next M lines will contain A, B and W which means there is an edge from A to B where the cost is W. There will be no negative weight in the graph.

Also, you will be given a source and a destination. You need to tell the shortest distance between source and destination.

Sample Input	Sample Output
6 9 1 2 5 2 3 2 1 3 10 3 4 1 4 1 5 1 5 9 5 6 1 2 6 4 2 5 2 4 6	13

The shortest path is 4-> 1-> 2-> 5-> 6, so the shortest distance is 13.

