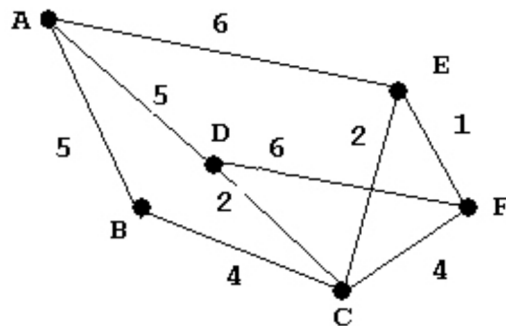


Lab 9

Problem Description:

Write a Java program to find the shortest path on a graph. A graph is a collection of nodes. Nodes are joined together by edges which have a certain distance. Not all nodes are connected directly to the other nodes. It may be necessary to travel through other nodes to reach the desired node. A sample graph is depicted in a figure below:



Input: The input will contain information about the edges between nodes and then about the nodes to be visited. The first line of input is an integer depicting the number of edges in the graph. The next N lines will contain information about the edges, starting node letter (A - M), ending node letter (A - M), a space followed by an integer which provides the distance between these nodes. The ending node letter will never be same as the starting node letter. After these lines there will be five lines of data about the nodes to be visited. Each of these five lines contains two letters, the starting node and the ending node.

Output: The output will contain the shortest distance between the five sets of nodes to be visited. The distances will be in a line with one space in between.

Test Case	Input	Output
1	9 AB 5 AD 5 EA 6 BC 4 CD 2 EC 2 CF 4 DF 6 EF 1 AC FB BD ED AF	7 7 6 4 7