You will are asked to solve the single source shortest path problem for a directed weighted graph, with no negative edges, using Dijkstra's Algorithm.

Step 1: Read a Directed Weighted Graph G from an Input File that provides an Adjacency List

```
10
4 8 4 10 6
9 6 74 10 4 7 7
1 7 6 2 6
7 2 96 9 5 1 9
3 6 2 1 74 5 8
8 5 3 4 10
5 3 7 8 1 7 64
6 3 5
2 7 43 5 100 1 5
10 4 6 9 5
```

The first line of the file contains n, the number of vertices of G. The names of the vertices are the integers from 1 to n. Each remaining line of the graph is a list of integers separated by spaces, and represents the list of outneighbors of one vertex. The first number in the line is the name of the vertex. After that, there is a sequence of pairs, consisting of a vertex name and a weight. The source will be vertex 1.

Step 2: Develop Dijkstra's Solution and solve for the source being vertex 1. The solution should print the shortest path from source to each other vertex.

Step 3: Provide the sample of the solution for source = vertex 1 and destination = vertex 4.

For the preparation of this example we were motivated by:
http://web.cs.unlv.edu/larmore/Courses/CSC269/dijkstra.html