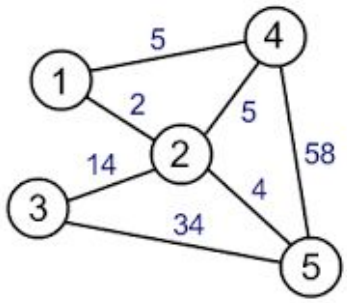
Bellman Ford algorithm:

You are required to implement bellman ford algorithm using sockets and ports that you have learnt in the course.The network will be specified in a text file in the following manner.



For the above network the input looks like:

```
5                                   # No of vertices
2 2 2 4 5
4 1 2 3 14  4 5  5 4
2 2 14 5 34
3 1 5 2 5  5 58
3 2 4 3  34 4 58
```

Each line corresponds to a node and the first number denotes the number of adjacent nodes and is followed by the node numbers and their corresponding link costs.

Eg: 2 2 2 4 5 implies there are 2 neighbours i..e 2 and 4 and their corresponding link costs are 2 and 5.

You are expected to code a program(s) that takes this input file and then runs the bellaman ford algorithm and finally output the shortest cost from each node to every other node. The results are to be written to a text file and the format is similar to the input format except that each line consists of costs to all other nodes.

Eg: The output for the above network should look like:

```
5
4 2 2 3 16  4 5  5 6
4 1 2 3 14 4 5 5 4
```

4 1 16 2 14 4 19 5 18
4 1 5 2 5 3 19 5 9
4 1 6 2 4 3 18 4 9

You *must* use sockets for transfer of data from one node to another. Implementing just the algorithm will not fetch you full marks.