b. Bellman-Ford shortest path algorithm. Computes the shortest path tree in edge-weighted digraph G from vertex s, or finds a negative cost cycle reachable from s.

Input Format:

First line contains integer t number of test cases.

Second line contains integer V number of Edges.

Third line contains integer E number of Edges.

Next E lines contain 2 integers and d double distance separated by space.

Output Format:

Print source s to destination vertex v in ascending order of destination vertices if there is path followed by distance rounding off to 2 decimal places separated by colon.

Sample Input:

2

8

15

1

4 5 0.35

5 4 0.35

4 7 0.37

5 7 0.28

7 5 0.28

5 1 0.32

0 4 0.38

0 2 0.26

7 3 0.39

1 3 0.29

2 7 0.34

6 2 -1.20

3 6 0.52

6 0 -1.40

6 4 -1.25

5

8

0

0 1 -1

0 2 4

1 2 3

1 3 2

1 4 2

3 2 5

3 1 1

4 3 -1

Sample Output:

1 to 0 : -0.59

1 to 1 : 0.0

1 to 2 : -0.39

1 to 3 : 0.29

1 to 4 : -0.44

1 to 5 : -0.09

1 to 6 : 0.81

1 to 7 : -0.07

0 to 0 : 0.0

0 to 1 : -1.0

0 to 2 : 2.0

0 to 3 : 0.0

0 to 4 : 1.0