**Problem statement:** John has to attend some conferences. There are N cities numbered from 1 to N and conferences can be held in any city. John lives in city1 and he will attend the conference as per schedule.

Design and implement an algorithm with minimum time complexity that will find the shortest path from John's location to any conference's location. Consider all cities are connected. Graph is a simple graph, no parallel edges or self loop. It is not mandatory that the graph should be complete.

**INPUT FORMAT:**

First line: Two space-separated integers denoting N(The number of cities) and M(number of possible routes between cities).

Next M lines: Each line contains three space-separated integers x, y & t. t defines the distance between city A and city B.

**Output Format:**

First line: Two space-separated integers denoting N(The number of cities)and M(number of routes in final graph).

Next M lines: Each line of the subsequent lines contains the values of x, y and c. x is city1.

c defines the distance between city 1 and city y.

**Constraint**

1 <= N <= 1000

1 <= M <= 2000

1≤x,y≤N

**Example:**

**input**

6 8

1 2 1

1 4 5

2 3 2

2 5 1

2 4 2

3 6 2

3 5 3

5 6 2

**output**

6 5

1 2 1

1 3 3

1 4 3

1 5 2

1 6 4

**You can use MS excel/matplotlib to plot the graph. Consider relation between edges and vertices and then plot the graph between time taken and no. of vertices. Submit the document including algorithm, time complexity, graph and screenshots of output.**