**Problem statement:** There are X cities and initially no roads between them. However, Every day a new road will be constructed, and there will be a total of Y roads.

You have a list of all possible roads from one city to another with the cost of each road.

Your task is to design and implement an algorithm that can find the roads which can connect all cities with minimum cost. Optimize your algorithm to minimum time complexity.

**Input Format**

The first line contains two space-separated integers denoting X(the number of cities) and P(the number of possible roads).

Then there are P lines: Each line of the subsequent lines contains the values of A,B and C.

C defines the cost of a bidirectional road between city A and B.

**Output Format**

The first line contains two space-separated integers denoting X(the number of cities) and Y(the number of roads).

Next Y lines: Each line of the subsequent lines contains the values of A,B and C.

C defines the cost of a bidirectional road between city A and B.

Constraints

5≤X≤10^5

6≤P≤2\*10^5

1≤A,B≤X

1≤c≤10^9

**Example**

input

5 6

1 2 20

1 3 30

1 5 60

3 5 10

5 4 4

3 4 16

output

5 4

1 2 20

1 3 30

3 5 10

5 4 4

**Plot the graph against various input sizes. You can use MS excel/matplotlib to plot the graph. Also submit the document including algorithm, time complexity and code. You can also**

**include the screenshots if any.**