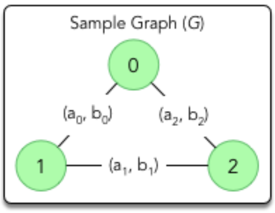
Spanning Tree Fraction

Consider a connected graph, $G = (V, E)$, with n vertices numbered from 0 to $n-1$ connected by m edges. Each edge i (where $0 \leq i < m$) is labeled with pair of integers, (a_i, b_i). For example:



Given G, find a spanning tree $T \subset E$ with maximum possible value of $\frac{\sum_{i \in T} a_i}{\sum_{i \in T} b_i}$.

Then print the result of the maximal summation as an irreducible fraction in the form `p/q`.

Input Format

The first line contains two space-separated integers denoting the respective values of n (the number of vertices in G) and m (the number of edges in G).
Each of the m subsequent lines contains four space-separated integers describing the respective values of u_i, v_i, a_i, and b_i defining an edge between vertices u_i and v_i with the label (a_i, b_i).

Constraints

- $2 \leq n \leq 10^5$
- $n - 1 \leq m \leq 10^5$
- $0 \leq u_i, v_i \leq n-1$
- $1 \leq a_i, b_i \leq 100$
- Graph G may contain self-loops and multiple edges between the same pair of nodes.

Output Format

Print the maximum value of the given summation for any $T \subset E$ as an irreducible fraction in the form `p/q`. If this number is an integer, q must be 1.

Sample Input 0

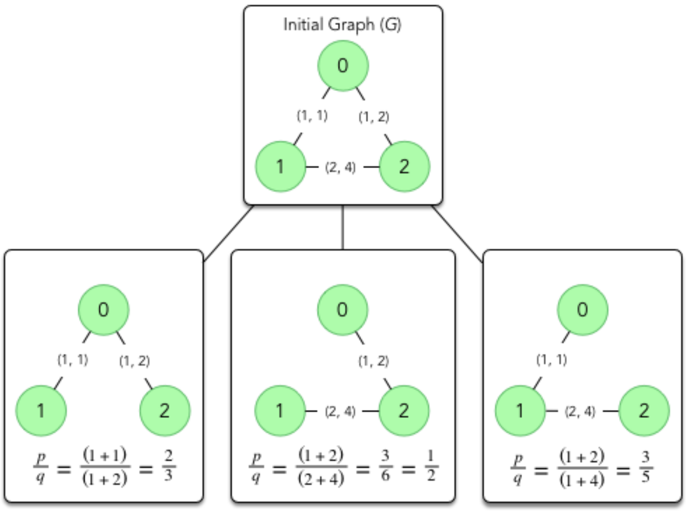
```
3 3
0 1 1 1
1 2 2 4
2 0 1 2
```

Sample Output 0

```
2/3
```

Explanation 0

The diagram below depicts G and its three different spanning trees:



Because the maximum $\frac{p}{q}$ is $\frac{2}{3}$, we print `2/3` as our answer.