## The Story of a Tree

One day Bob drew a tree, $T$, with $n$ nodes and $n-1$ edges on a piece of paper. He soon discovered that parent of a node depends on the root of the tree. The following images shows an example of that:


Learning the fact, Bob invented an exciting new game and decided to play it with Alice. The rules of the game is described below:

1. Bob picks a random node to be the tree's root and keeps the identity of the chosen node a secret from Alice. Each node has an equal probability of being picked as the root.
2. Alice then makes a list of $g$ guesses, where each guess is in the form $u v$ and means Alice guesses that $\operatorname{parent}(v)=u$ is true. It's guaranteed that an undirected edge connecting $u$ and $v$ exists in the tree.
3. For each correct guess, Alice earns one point. Alice wins the game if she earns at least $k$ points (i.e., at least $k$ of her guesses were true).

Alice and Bob play $q$ games. Given the tree, Alice's guesses, and the value of $k$ for each game, find the probability that Alice will win the game and print it on a new line as a reduced fraction in the format $p / q$.

## Input Format

The first line contains an integer, $q$, denoting the number of different games. The subsequent lines describe each game in the following format:

1. The first line contains an integer, $n$, denoting the number of nodes in the tree.
2. The $n-1$ subsequent lines contain two space-separated integers, $u$ and $v$, defining an undirected edge between nodes $u$ and $v$.
3. The next line contains two space-separated integers describing the respective values of $g$ (the number of guesses) and $k$ (the minimum score needed to win).
4. Each of the $g$ subsequent lines contains two space-separated integers, $u$ and $v$, indicating Alice guesses $\operatorname{parent}(v)=u$.

## Constraints

- $1 \leq q \leq 5$
- $1 \leq n \leq 10^{5}$
- $1 \leq u, v \leq n$
- $1 \leq g, k \leq 10^{5}$
- The sum of $n$ over all test cases won't exceed $2 \times 10^{5}$.
- No two guesses will be identical.


## Scoring

- For $25 \%$ of the maximum score, $1 \leq n \leq 10^{3}$.
- For $100 \%$ of the maximum score, $1 \leq n \leq 10^{5}$.


## Output Format

Print the probability as a reduced fraction in the format $\mathrm{p} / \mathrm{q}$.
Note: Print $0 / 1$ if the probability is 0 and print $1 / 1$ if the probability is 1.

## Sample Input 0

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


## Sample Output 0

```
1/2
1/3
```


## Explanation 0

Alice and Bob play the following $g=2$ games:

1. Alice makes two guesses, (12) and (34), meaning she guessed that parent (2) $=1$ and $\operatorname{parent}(4)=3$. To win the game, at least $k=2$ of her guesses must be true.

In the diagrams below, you can see that at least 2 guesses are true if the root of the tree is either node 1 or 3 :


There are 4 nodes in total and the probability of picking node 1 or 3 as the root is $\frac{2}{4}$, which reduces to $\frac{1}{2}$.
2. In this game, Alice only wins if node 1 is the root of the tree. There are 3 nodes in total, and the probability of picking node 1 as the root is $\frac{1}{3}$.

