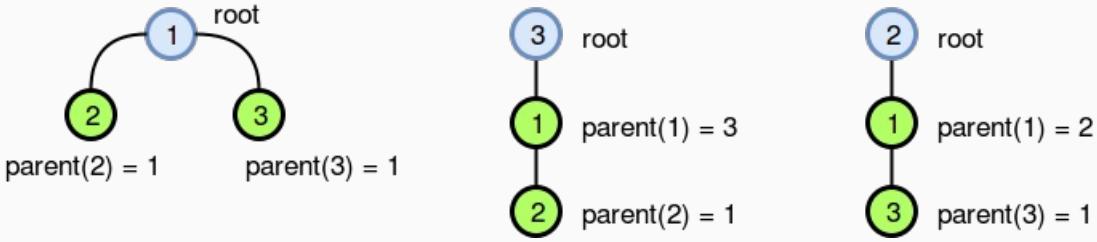
One day Bob drew a tree, T, with n nodes and $n-1$ edges on a piece of paper. He soon discovered that parent of a node depends on the root of the tree. The following images shows an example of that:



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 $parent(v) = u$ 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 $parent(v) = u$.

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 2×10^5.
- 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 `p/q`.

Note: Print `0/1` if the probability is 0 and print `1/1` if the probability is 1.

Sample Input 0

```
2
4
```

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

Sample Output 0

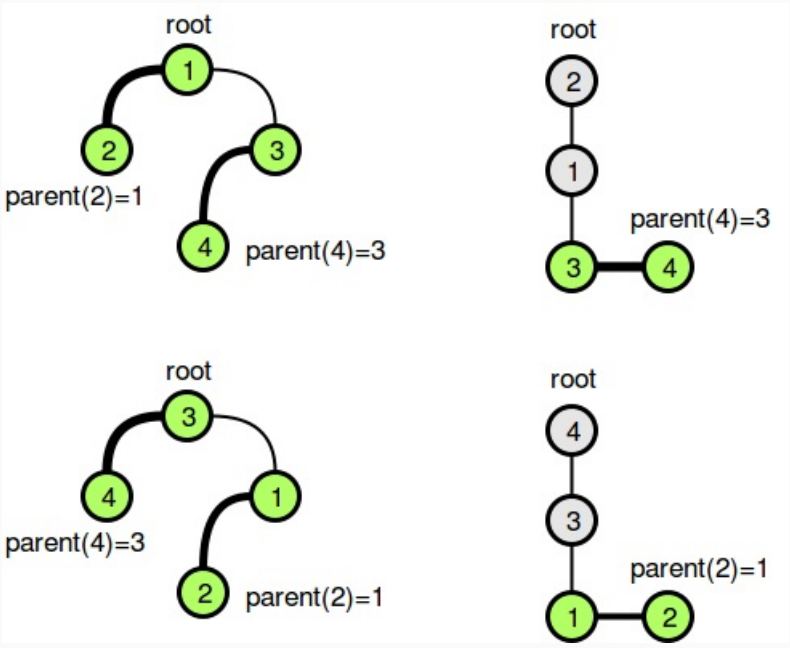
```
1/2
1/3
```

Explanation 0

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

1. Alice makes two guesses, $(1\ 2)$ and $(3\ 4)$, meaning she guessed that $parent(2) = 1$ and $parent(4) = 3$. 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 $\frac{1}{3}$.