

The network of city is in the form of unrooted tree and an integer k .

Your task is to color these cities with respect following rules:

- The color value assigned to each city lie between 1 and 20(inclusive).
- The square of the sum of two adjacent nodes in tree should be less than or equal to 450 .
- The sum of every two adjacent nodes must not be divisible by k .

You have to tell the total number of ways in which the trees can be coloured.

Input format:

First line: integer n and k

Next $n-1$ lines, two integers x and y describing the edge