

# Far Vertices



You are given a tree that has  $N$  vertices and  $N-1$  edges. Your task is to mark as small number of vertices as possible, such that, the maximum distance between two unmarked vertices is less than or equal to  $K$ . Output this value. Distance between two vertices  $i$  and  $j$  is defined as the minimum number of edges you have to pass in order to reach vertex  $i$  from vertex  $j$ .

## Input Format

The first line of input contains two integers  $N$  and  $K$ . The next  $N-1$  lines contain two integers  $(u_i, v_i)$  each, where  $1 \leq u_i, v_i \leq N$ . Each of these lines specifies an edge.  $N$  is no more than 100.  $K$  is less than  $N$ .

## Output Format

Print an integer that denotes the result of the test.

## Sample Input:

```
5 1
1 2
1 3
1 4
1 5
```

## Sample Output:

```
3
```

## Sample Input:

```
5 2
1 2
1 3
1 4
1 5
```

## Sample Output:

```
0
```

## Explanation:

In the first case you have to mark at least 3 vertices, and in the second case you don't need to mark any vertices.