K-Paths

Time Limit : 2 sec

In a graph, a path is defined as a sequence of distinct edges which connect a sequence of vertices. For an unweighted, undirected graph, the length of a path is the number of edges on it. A tree is a connected graph without any cycles. You are given an unweighted, undirected tree with ‘n’ vertices. Count the number of paths of length ‘k’.

Input :
First line of input contain two space separated integers ‘n’ (the number of vertices) and ‘k’. Assume the vertices are numbered from 1 to n. Next ‘n-1’ lines contain two space separated integers ‘u v’ representing an edge between vertices numbered u and v in the tree.

Output :
Print a single line with the answer.

Constraints :
$1 \leq n \leq 5 \times 10^4$
$1 \leq k \leq 5 \times 10^2$

Sample Input :
5 2
1 2
2 3
3 4
3 5

Sample Output :
4