Analysis

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 1024 mebibytes

Given an undirected tree with n vertices, Little Q wants to delete all tree edges. Initially, he selects a starting vertex. In each operation, he can perform one of the following three actions:

1. Choose an adjacent undeleted edge, traverse it, and delete the edge.

2. Pay a cost of A to restore a deleted edge.

3. Pay a cost of B to teleport to any vertex.

Find the minimum total cost required to delete all tree edges.

Input

The first line contains three positive integers: n, A, and B ($1 \leq n \leq 5 \cdot 10^5$; $1 \leq A, B \leq 10^9$).

Each of the next $n-1$ lines contains two integers u and v: two vertices connected by an edge ($1 \leq u, v \leq n$).

Output

Output a single integer: the minimum total cost required to delete all tree edges.

Examples

standard input	standard output
5 100 1000 1 2 2 3 3 4 4 5	0
5 100 200 1 2 1 3 2 4 2 5	100