Problem J
Gas Station

Time limit: 3 seconds

Problem Description

Alex is planning rest area placements on a simplified model of Taiwan's freeway system. The system contains n interchanges, connected by $n-1$ bidirectional roads. The network is connected, and there is exactly one shortest route between any pair of interchanges. The i-th road connects interchanges u_i and v_i, and has a length of l_i.

Exactly k rest areas with gas stations can be built, each located at an interchange. A driver may start a trip from any interchange and travel to any other, always following the unique shortest path. They begin each trip with a full tank of gas and can refuel only at interchanges that have a rest area.

Alex is curious about the smallest possible fuel tank capacity d such that it's possible to place the k rest areas in a way that ensures no driver will ever run out of gas. On any trip, the driver must never have to travel more than d units along the path without passing through a rest area, including at the beginning or end of the journey. The goal is to figure out the minimum such d, assuming the rest areas are placed in the best possible way.

Input Format

The first line contains two integer n, k.

Followed by $n-1$ lines, the i-th of which contains three integers u_i, v_i, l_i, representing the i-th road connects interchanges u_i and v_i with a length l_i.

Output Format

Output one integer, the smallest possible fuel tank capacity d.

Technical Specification

- $2 \leq n \leq 2 \times 10^5$
- $0 \leq k \leq n$
- $1 \leq u_i, v_i \leq n$
- $1 \leq l_i \leq 10^9$
- It is guaranteed that the input roads form a tree.

Sample Input 1

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

Sample Output 1

```
5
```

Sample Input 2

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

Sample Output 2

```
3
```