Protecting Roads

Byteland is a city in the shape of a tree with **N** nodes - The first of its kind!. Each edge in this tree has an integer length associated with it.
The king of Byteland is therefore scared that his city is under danger of foreign invasion at all times and hence he wants to establish **K** military bases in his kingdom. To establish the military bases he will first choose **K** nodes and then modify some roads such that it is possible to reach any of the military bases from other military bases using the modified roads. The cost of this operation is the sum of lengths of modified roads. Of course, he wants the operation to cost as little as possible.

He also hasn't decided the value of **K** and the nodes. He gives you **Q** queries with an integer **K** and **K** nodes per query. For each query, tell him the cost of establishing the military bases at the given nodes.
Note that each query is independent of each other.

Input Format:

First line contains 2 integers **N** and **Q**.
Next **N** - 1 lines contain 3 integers **U**, **V** and **C** indicating that there is an edge from **U** to **V** with length **C**.
Then **Q** lines follow for each query.
Each line contains an integer **K** followed by **K** integers denoting the nodes for that query.

Output Format:

For each query, output a single integer denoting the answer.

Constraints:

1 <= **N** <= 100000

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1 <= **Q** <= 100000
1 <= **U**, **V** <= 100000
1 <= **C** <= 1000000000
1 <= **K** <= 100000
Sum of **K** over all queries <= 1000000

Sample Input:

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

Sample Output:

4
6