How far away ？ - HDU 2586

https://vjudge.net/problem/hdu-2586

There are n houses in the village and some bidirectional roads connecting them. Every day peole always like to ask like this "How far is it if I want to go from house A to house B"? Usually it hard to answer. But luckily int this village the answer is always unique, since the roads are built in the way that there is a unique simple path("simple" means you can't visit a place twice) between every two houses. Yout task is to answer all these curious people.

Input

First line is a single integer T(T<=10), indicating the number of test cases.

For each test case,in the first line there are two numbers n(2<=n<=40000) and m (1<=m<=200),the number of houses and the number of queries. The following n-1 lines each consisting three numbers i,j,k, separated bu a single space, meaning that there is a road connecting house i and house j,with length k(0<k<=40000).The houses are labeled from 1 to n.

Next m lines each has distinct integers i and j, you areato answer the distance between house i and house j.

Output

For each test case,output m lines. Each line represents the answer of the query. Output a bland line after each test case.

Sample Input

```
2
3 2
1 2 10
3 1 15
1 2
2 3

2 2
1 2 100
1 2
2 1
```

Sample Output

```
10
25
100
100
```