

Team forming contest 5 - 2013 batch

1:49:45

5:00:00

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C - Successor

Time Limit:1000MS **Memory Limit:**65536KB **64bit IO Format:**%I64d & %I64u[Submit](#)[Status](#)

Description

Sean owns a company and he is the BOSS. The other Staff has one Superior. every staff has a loyalty and ability. Some times Sean will fire one staff. Then one of the fired man's Subordinates will replace him whose ability is higher than him and has the highest loyalty for company. Sean want to know who will replace the fired man.

Input

In the first line a number T indicate the number of test cases. Then for each case the first line contain 2 numbers n,m ($2 \leq n, m \leq 50000$), indicate the company has n person include Sean, m is the times of Sean's query. Staffs are numbered from 1 to n-1, Sean's number is 0. Follow n-1 lines, the i-th ($1 \leq i \leq n-1$) line contains 3 integers a,b,c ($0 \leq a \leq n-1, 0 \leq b, c \leq 1000000$), indicate the i-th staff's superior Serial number, i-th staff's loyalty and ability. Every staff's Serial number is bigger than his superior, Each staff has different loyalty. then follows m lines of queries. Each line only a number indicate the Serial number of whom should be fired.

Output

For every query print a number: the Serial number of whom would replace the losing job man, If there has no one to replace him, print -1.

Sample Input

```
1
3 2
0 100 99
1 101 100
1
2
```

Sample Output

```
2
-1
```

5/23/2016

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