Decision tree

Cost: 30 | Solved: 18

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

You are given **k** queries and a decision table.

You have to output a solution for each of the **k** queries, based on the decision table data.

Use the decision tree building algorithm when solving the task.

Input:

The first line contains three integers: **n** – the number of criteria of the decision table, **m** – the number of rows in the decision table, **k** – the number of queries.

The next **m** lines contain the decision table itself. The first **n** columns of it contain criteria each separated with a comma, the **n+1**th one contains a result – the final decision based on the given data.

The next **k** lines contain criteria for new queries (also separated with commas).

Output:

Decisions for the queries, each separated with a line feed.

Example:

Input	Output

4 8 2

higher,home,visitation,1,no

higher,home,visitation,0,yes

higher,home,pass,0,no

below,home,pass,0,yes

below,visit,pass,0,no

below,home,pass,1,yes

higher,visit,visitation,1,no

below,visit,visitation,0,yes

higher,visit,visitation,1

below,home,pass,0

no

yes