

## Problem C: Which Group?

Filename: *group*  
Time limit: 4 seconds

Arup has enjoyed running his ChatGPT experiment. However, there is a problem. He can't seem to keep straight which week each student was in the experimental group (that got to use Chat GPT.) Write a program to help him!

### The Problem

Given a list of which week (1 or 2) each student was in the experimental group, along with several queries about students, determine which week each of the students was in the experimental group.

### The Input

The first line of input will contain a single positive integer,  $c$  ( $1 \leq c \leq 25$ ), representing the number of input cases to process. Each of the input cases follow. The first line of each input case will contain two space separated integers:  $n$  ( $1 \leq n \leq 10^5$ ) and  $q$  ( $1 \leq q \leq 10^5$ ), representing the number of students in the class and the number of queries, respectively. The following  $n$  lines will each contain the name of a student (in between 1 - 10 lowercase letters) followed by a space, followed by either 1 or 2, depending on whether that student was in the experimental group in week 1 or week 2. Each of these  $n$  names will be distinct within a case. The following  $q$  lines after that will each have the name of a student (again, in between 1 - 10 lowercase letters). These names need not be distinct and could be different from any of the original  $n$  names provided in the case. The sum of  $n$  and  $q$  over all test cases won't exceed  $10^6$ .

### The Output

For each query, on a line by itself, output 1, if the queried student was in the experimental group in week 1, output 2, if the queried student was in the experimental group in week 2, or output -1, if the queried student wasn't listed amongst the  $n$  students in the class.

#### Sample Input

```
2
2 3
arup 1
justin 2
justin
arup
paula
1 1
jim 2
jim
```

#### Sample Output

```
2
1
-1
2
```