MWC '15 #3 P1: Challenger Promos

Time limit: 2.0s **Memory limit:** 256M

Over the course of D days, N players gain or lose T_i points on their base score S_i. At the end of the D days, the top P players make it to the highest division which is called Challenger. Given players, their base scores, and their score change over D days, output the player with the P^{th} highest ranking (the last person to make it to Challenger).

Input Specification

The first line of input will contain one integer N $(1 \leq N \leq 10^3)$, the numbers of players.
The next N lines of input will contain a string up to 30 characters long which is the name of each player and their base score S_i $(0 \leq S_i \leq 10^6)$.
The next line of input will contain a single integer D $(1 \leq D \leq 100)$, the number of days.
The next $D \times N$ lines contain the name of each player and the net change of each player's score T_i $(-S_i \leq T_i \leq 10^6)$ on the D_i^{th} day.
The final line will contain one integer P, the number of players that will make it to Challenger.

Output Specification

Output a string, the name of the last player to make it to Challenger.

Sample Input

```
7
Hypnova 1000
Twisch 1304
Meruvale 1234
Ferina 976
Destryn 958
Intoxify 1062
Flaere 999
2
Hypnova -3
Twisch 2
Meruvale -3
Ferina 4
Destryn -1
Intoxify 3
Flaere 26
Hypnova 1003
Twisch -2
Meruvale 112
Ferina -13
Destryn 12
Intoxify -44
Flaere 34
3
```

Sample Output

```
Twisch
```