SPOJ Problem Set (tutorial)

9112. Pizza Toppings

Problem code: NSUJ02B

Ashfaq took his new-found girlfriend to a very expensive restaurant. They only sell pizza and Ashfaq didn't know it would be that expensive. His girlfriend wants to have a pizza with some selected toppings. Unfortunately there is no pizza there that has exactly those toppings. But you choose one pizza and then buy extra toppings, each for 350 taka. You can also tell them to remove some toppings (like onion) - they don't charge any money for that.
Ashfaq is afraid that he'll have to spend his whole month's pocket money on a single date. He already parsed the whole menu from that restaurant's webpage, now he needs a smart program that can find him the cheapest pizza that meets the criteria.

Input

First line will contain t, number of test cases.
For each case, it will contain two numbers - m and n (m,n<=20), m is the number of pizza the restaurant offers, n is number of toppings Ashfaq's girlfriend wants to have. The next line contains n words, name of those toppings. After that there will be m lines, each will start with a number k, number of toppings, p - the price of the pizza and the name of the pizza. Next line will contain the names of k toppings.
You can assume all the names will contain only alphabets and less than 20 characters in length. No pizza will have more than 20 toppings, and same toppings won't be mentioned twice. Assume that the restaurant has all kind of toppings.

Output

For each case, print the cheapest pizza Ashfaq should choose and it's price after adding the missing toppings. If there is more than one such pizza with lowest price, print the one that comes first.

Example

Added by: Iqram Mahmud
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Time limit: 1s
Source limit:50000B
Languages: All
Resource: Own