

Competitive Programming SS24

Submit until end of contest



Problem: dnd (2.5 second timelimit)

You are Kimiko Lockeweaver, Bayesian Empiricist of Highest Probability. Or so you've been last week, because today you've finally found Occam's Two-Handed Razor, which makes you consider retraining as a Heuristic Nominalist. On the other hand, your group has recently lost their Cartesian Planeswalker due to an unfortunate measuring error, so you've tried talking your discourse master (DM) into proposing that you've been the planeswalker's unknown half-sister all along in order to fill in her position.

These and many more are character classes from the classic pen-and-paper game *Dungeons & Discourse* by Aaron Diaz. While each class has a unique set of special abilities, they are also characterized by two basic numeric values ("stats"): sword proficiency and sorcery proficiency. If (and only if) the rule books allow retraining as a different class, you have to pay the squared difference in proficiency for each stat in gold coins to the greedy in-game trainer to do so. Naturally, this leads to the question of how to change to your favorite class (of today) with minimal funds and a total disregard for any character consistency.

Input In the first line, you get an integer n ($1 \leq n \leq 2 \cdot 10^3$) the number of different classes. Classes are numbered from 1 to n . Then n lines follow with two numbers d_i, c_i ($-10^4 \leq d_i, c_i \leq 10^4$) each, which represent their sword and sorcery proficiency.

The next line contains an integer m ($0 \leq m \leq 5 \cdot 10^3$). Then m lines follow with two integers a, b ($1 \leq a, b \leq n$) each, stating that class a may be retrained to class b and vice versa.

Finally, the next line contains a single integer q ($1 \leq q \leq 10^5$), followed by q lines, each describing a query with two integers a, b ($1 \leq a, b \leq n$).

Output For each query, print the minimum number of gold coins needed for retraining from class a to class b , or "BRIBE DM WITH FOOD" if there's no way to do so via the rule books, on a single line.

Sample input

```
5
0 3
1 1
4 2
-1 3
2 -4
4
1 2
3 4
1 3
1 4
3
1 5
2 4
3 2
```

Sample output

```
BRIBE DM WITH FOOD
6
22
```

```
5
-470 -4163
-435 9407
-4078 -1113
-2932 1272
-6019 -1077
6
2 5
2 3
1 2
4 3
1 4
5 1
4
4 1
4 2
4 3
2 1
```

```
35600669
130943390
7001541
166544059
```