Problem MAKEMONEY: Making Money

The fight of the mutants against the non-mutants on earth is still under way. This time Magneto has a very expensive plan and needs lots of money for it. Of course he doesn't want to steal it because that would draw too much attention to his group. Rather he has found another very clever way of making money which he keeps secret. Professor Xavier has a suspicion what his old friend Magneto is doing. It seems he is utilizing a strange situation in the world-wide financial markets. Because there are lots of different currencies, there are exchange rates between these currencies. Now, it is theoretically possible to exchange money from one currency to another, and to a third one, and so on until in the end you have more money than in the beginning (this situation is often called *arbitrage*). Professor Xavier now asks you to check if his suspicion is true.

Input

The testcase consists of a list of exchange rates for the different currencies. The first line gives the number of currencies (≤ 500) and the number of following exchange rates ($\leq 50,000$). The two numbers are separated by a space. Then the rates follow, each in one line. A line consists of the three-letter code of the first currency, a space, the three-letter code of the second currency, another space, and finally the rate for exchanging the first currency into the second one as a floating point number. The exchange rate is always > 0. Please note that due to political reasons it may not be possible to convert a currency into all others. Also, each exchange rate is only given once.

Output

If Professor Xavier's suspicion holds, that Magneto is making money by using this arbitrage effect in the financial system, output "`Yep, suspicion is true.`" otherwise output "`Nope, you are wrong.`".

Sample Input 1

```
3 4
TWD EUR 0.04
EUR GPB 0.8
GPB EUR 1.22
GPB TWD 30
```

Sample Output 1

```
Nope, you are wrong.
```

Sample Input 2

```
3 3
EUR USD 1.3
USD SFR 1.2
SFR EUR 0.7
```

Sample Output 2

```
Yep, suspicion is true.
```