Antoine is a retailer. He has 1 lev (marked with BGN). He has a list of all possible exchanges at the exchange offices in his city (which we assume have an unlimited amount of all the currencies they offer) and is now interested in whether through them he can become infinitely rich in BGN with enough exchanges (or at least until an exchange office bans him).

Formally, you are asked whether there exists a sequence of currencies , such that

**Input**

The first line of the file **trade.in** contains the number – the number of possible exchanges. The next contains 3 values each – , , . This means that a unit of currency can be converted into units of currency .

**Output**

Print “YES” or “NO” in the file **trade.out**. It is guaranteed that you will not receive “wrong answer” due to a precision error.

**Constraints**

has at most 9 decimal digits.

, consists of uppercase English letters

**Time limit: 2 sec.**

**Memory limit: 256 MB.**

**Sample test**

|  |  |
| --- | --- |
| **Input (trade.in)** | **Output (trade.out)** |
| 3  BGN USD 1.86  USD EUR 1.05  EUR BGN 0.52 | YES |