Round numbers (2)   X87201_en

In this exercise, we say that a natural number is *round* in base b, when the sum of of its digits in base b equals its number of digits in this base.

For example, the number 34 is not round in base 10 ($3 + 4 \neq 2$), but it is round in base 3, as

$$1 \cdot 3^3 + 0 \cdot 3^2 + 2 \cdot 3^1 + 1 \cdot 3^0 = 34 \text{ and } 1 + 0 + 2 + 1 = 4.$$

As another example, 511 is not round in base 16 as

$$1 \cdot 16^2 + 15 \cdot 16^1 + 15 \cdot 16^0 = 511 \text{ and } 1 + 15 + 15 = 31 \neq 3,$$

but it is round in base 2 (it has 9 ones, that add up to 9). Another example: 370273 is not round in base 2, neither in base 3, ..., however it is round in base 608, because

$$1 \cdot 608^2 + 1 \cdot 608^1 + 1 \cdot 608^0 = 370273 \text{ and } 1 + 1 + 1 = 3.$$

A sequence of pairs of natural numbers (n, b), where n is a natural number and $b \geq 2$, is called *bi-round* if it does contain at least two pairs (n, b) with the property that n is round in base b.

Write a program that, given a sequence of pairs of natural numbers, determines whether it is bi-round or not.

Your program must include, use and implement the function

   bool *round* (**int** n, **int** b);

that indicates if a natural number is round on base b or not.

Input

The input is a non-empty sequence of pairs of natural numbers (x, b) with $b \geq 2$.

Output

The program has to write if the input sequence is bi-round or not.
Please follow the format described in the examples. Your code should follow the style rules and include the appropriate comments.

Sample input 1

```
34 10
34 3
511 16
511 2
370273 2
370273 608
```

Sample output 1

```
Yes
```

Sample input 2

```
34 10
```

Sample output 2

```
No
```

Sample input 3

```
34 3
```

Sample output 3

```
No
```

Sample input 4

```
34 10
511 6
300 10
320 10
34 3
```

Sample output 4

```
Yes
```

Problem information

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