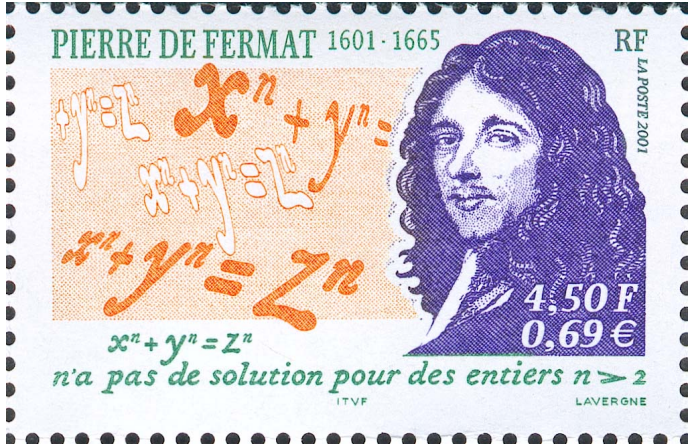


11287 Pseudoprime numbers

Fermat's theorem states that for any prime number p and for any integer $a > 1$, $a^p \equiv a \pmod{p}$. That is, if we raise a to the p th power and divide by p , the remainder is a . Some (but not very many) non-prime values of p , known as *base- a pseudoprimes*, have this property for some a . (And some, known as Carmichael Numbers, are base- a pseudoprimes for all a .)

Given $2 < p \leq 1,000,000,000$ and $1 < a < p$, determine whether or not p is a *base- a pseudoprime*.



Input

Input contains several test cases followed by a line containing '0 0'. Each test case consists of a line containing p and a .

Output

For each test case, output 'yes' if p is a base- a pseudoprime; otherwise output 'no'.

Sample Input

```
3 2
10 3
341 2
341 3
1105 2
1105 3
0 0
```

Sample Output

```
no
no
yes
no
yes
yes
```