Day 25: Running Time and Complexity

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Problem Submissions Leaderboard Discussions Editorial Tutorial

Objective

Today we're learning about running time! Check out the Tutorial tab for learning materials and an instructional video!

Task

A *prime* is a natural number greater than that has no positive divisors other than and itself. Given a number, , determine and print whether it's or .

Note: If possible, try to come up with a primality algorithm, or see what sort of optimizations you come up with for an algorithm. Be sure to check out the *Editorial* after submitting your code!

Input Format

The first line contains an integer, , the number of test cases.
Each of the subsequent lines contains an integer, , to be tested for primality.

Constraints

- 0
-

Output Format

For each test case, print whether is P or N on a new line.

Sample Input

```
3
12
5
7
```

Sample Output

```
Not prime
Prime
Prime
```

Explanation

Test Case 0: .
is divisible by numbers other than and itself (i.e.: , ,), so we print N e on a new line.

Test Case 1: n .
is only divisible and itself, so we print on a new line.

Test Case 2: .
is only divisible and itself, so we print P on a new line.