Your Day 25: Running Time and Complexity submission got 30.00 points. Tweet

You are now 4 challenges away from the gold level for your 30 days of code badge.

Try the Next Challenge

Day 25: Running Time and Complexity

by blondiebytes

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

Submitted 34379 times
Max Score 30

Need Help?

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

-
-

Output Format

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

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

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

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Suggest Edits

Current Buffer (saved locally, editable) Python 3

```
1 import math
2
3 def is_prime(n):
```

```
    if n == 1:
        print("Not prime")
    elif n == 2:
        print("Prime")
    elif n % 2 == 0:
        print("Not prime")
    else:
        i = 3
        factor_max = int(math.sqrt(n))
        while i <= factor_max:
            if n % i == 0:
                print("Not prime")
                return
            i = i + 2
        print("Prime")

t = int(input())
for i in range(t):
    n = int(input())
    is_prime(n)

```

Line: 18 Col: 9

Test against custom input

Run Code Submit Code

Congrats, you solved this challenge!

Challenge your friends:

- Test Case #0
- Test Case #1
- Test Case #2
- Test Case #3
- Test Case #4
- Test Case #5
- Test Case #6
- Test Case #7
- Test Case #8
- Test Case #9

Next Challenge

You've earned 30.00 points. You are now 4 challenges away from the gold level for your 30 days of code badge.