



Practice ▾ Tutorials ▾ 30 Days of Code ▾ Day 25: Running Time and Complexity

COMPETE

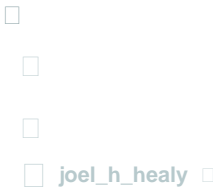
JOBS

LEADERBOARD

4 more challenges to get your gold badge!

Days of
Code

50% 26/30



Your Day 25: Running Time and Complexity submission got 30.00 points. Share [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 1 that has no positive divisors other than 1 and itself. Given a number, *n*, determine and print whether it's prime or not.

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

Input Format

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

Constraints

- 1 ≤ *n* ≤ 10
- 2 ≤ *x* ≤ 1000

Output Format

For each test case, print whether *x* is prime or not on a new line.

Sample Input

```
3
12
5
7
```

Sample Output


```
Not prime
Prime
Prime
```


Explanation


Test Case 0: 12 is divisible by numbers other than 1 and itself (i.e.: 2, 3, 4, 6), so we print not prime on a new line.


Test Case 1: 5 is only divisible by 1 and itself, so we print prime on a new line.

Test Case 2: 7 is only divisible by 1 and itself, so we print prime on a new line.

 [View Tutorial](#)

 [View Discussions](#)

 [View Editorial Solution](#)

 [View Top Submissions](#)

Rate This Challenge:

☐

☐

☐

☐

☐

[Download problem statement](#)

[Download sample test cases](#)

[Suggest Edits](#)



Current Buffer (saved locally, editable) ☐ ☐ Python 3 ☐ ☐

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

```
4 ☐ if n == 1:
5     print("Not prime")
6 ☐ elif n == 2:
7     print("Prime")
8 ☐ elif n % 2 == 0:
9     print("Not prime")
10 ☐ else:
11     i = 3
12     factor_max = int(math.sqrt(n))
13 ☐ while i <= factor_max:
14 ☐     if n % i == 0:
15         print("Not prime")
16         return
17     i = i + 2
18     print("Prime")
19
20 t = int(input())
21 ☐ for i in range(t):
22     n = int(input())
23     is_prime(n)
24
```

Line: 18 Col: 9

☐ [Upload Code as File](#) ☐ Test against custom input [Run 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.

