
Primality

P48713_en

Write a program that reads a sequence of natural numbers and, for each one, tells if it is a prime number or not. Remember that a natural number is prime if and only if it is greater than 1 and it does not have any positive divisor other than 1 and itself.

Input

Input consists of a number n , followed by n natural numbers.

Output

For every given natural number, tell in a line if it is prime or not, following the format of the example.

Hint

For every given n , at most about \sqrt{n} steps are needed to know if it is prime or not.

Sample input

```
4
7 10 101 161
```

Sample output

```
7 is prime
10 is not prime
101 is prime
161 is not prime
```

Problem information

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