
Control C501A

P16425_en

Your task is to write a program that, for each n given, prints the n smallest first prime numbers.

Input

The input is a sequence of natural numbers n with $1 \leq n \leq 1000$.

Output

For each n , print a line with the n first prime numbers, in increasing order, and separated by a comma.

Observation

Before reading any n , do a sieve of Eratosthenes to precalculate the first 1000 prime numbers. Knowing that 7919 is the prime number 1000 could be useful.

Sample input

```
5
10
1
29
```

Sample output

```
2, 3, 5, 7, 11
2, 3, 5, 7, 11, 13, 17, 19, 23, 29
2
2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103, 107, 109
```

Problem information

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