8   Bounding Primes

In this problem you will read in a list of numbers, and for each number you will output three things:

1. The largest prime number less than the input number

2. The input number

3. The smallest prime number greater than the input number.

The numbers in the input file will range from 4 to 32000.

A prime number is defined to be a number that is evenly divisible only by itself and 1.

Note: The ¶ symbol in the examples below represents a newline character.

Sample Input

```
4¶
32000¶
123¶
756¶
10000¶
20000¶
15000¶
1500¶
150¶
15¶
17¶
```

Sample Output

```
3 4 5¶
31991 32000 32003¶
113 123 127¶
751 756 757¶
9973 10000 10007¶
19997 20000 20011¶
14983 15000 15013¶
1499 1500 1511¶
149 150 151¶
13 15 17¶
13 17 19¶
```