

10852 Less Prime

Let n be an integer, $100 \leq n \leq 10000$, find the prime number x , $x \leq n$, so that $n - p * x$ is maximum, where p is an integer such that $p * x \leq n < (p + 1) * x$.

Input

The first line of the input contains an integer, M , indicating the number of test cases. For each test case, there is a line with a number N , $100 \leq N \leq 10000$.

Output

For each test case, the output should consist of one line showing the prime number that verifies the condition above.

Sample Input

```
5
4399
614
8201
101
7048
```

Sample Output

```
2203
311
4111
53
3527
```