

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
```