Project Euler #3: Largest prime factor

This problem is a programming version of Problem 3 from projecteuler.net

The prime factors of 13195 are $5, 7, 13$ and 29.

What is the largest prime factor of a given number N?

Input Format

First line contains T, the number of test cases. This is followed by T lines each containing an integer N.

Constraints

- $1 \leqslant T \leqslant 10$
- $10 \leqslant N \leqslant 10^{12}$

Output Format

For each test case, display the largest prime factor of N.

Sample Input

```
2
10
17
```

Sample Output

```
5
17
```

Explanation

- Prime factors of 10 are $\{2, 5\}$, largest is 5.
- Prime factor of 17 is 17 itself, hence largest is 17.