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Project Euler #3: Largest prime factor

by [shashank21j](#)[Problem](#)[Submissions](#)[Leaderboard](#)[Discussions](#)

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

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

Output Format

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

Sample Input 0

[f](#) [t](#) [in](#)Submissions: [15530](#)

Max Score: 100

Difficulty: Easy

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2
10
17




Sample Output 0

5
17

Explanation 0

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

Current Buffer (saved locally, editable)  

Java 7   

```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         Scanner in = new Scanner(System.in);
11         int t = in.nextInt();
12         for(int a0 = 0; a0 < t; a0++){
13             long n = in.nextLong();
14         }
15     }
16 }
17
```

Line: 1 Col: 1