



● Day 5 - Fascinating functions

Attempted by: 405 / Accuracy: 52% / Maximum Score: 50 / ★★★★★ 1 Vote

Tag(s): Binary Search, Data Structures, Math, Medium-Hard, Number Theory

PROBLEM**EDITORIAL****MY SUBMISSIONS**

Disclaimer: All characters appearing in this question are fictitious. Any resemblance to real person, living or dead, are purely coincidental.

Rahul Gandhi is vexed on the launch of BHIM app. Out of rage to prove himself , he designs some functions, and presents them before the party –

The two functions are $X(k)$ and $Y(k)$.

- $X(k)$ is defined as the number of positive divisors of k
- $Y(k) = k^{X(k)}$

Now, find out the smallest m such that $Y(m) = N$ for some given integer N .

Input Format:

The first line consists of T integers .

Each test case consists of a positive integer N .

Output Format:

For each test case, output the desired result.

Input Constraints:

$$1 \leq T \leq 10^5$$

$$2 \leq N \leq 10^{18}$$

Note

If no such m exists, then output "-1" (without quotes).

SAMPLE INPUT

2
4
10

SAMPLE OUTPUT

2
-1

Explanation

- In the first sample we have, $X(2) = 2$ and $Y(2) = 4$. So, the answer is 2
- In the second sample, there is no k satisfying $Y(k) = 10$

Time Limit: 1.0 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded when all the testcases pass.

Allowed Languages: C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Scala 2.11.8, Swift, Visual Basic

CODE EDITOR

Enter your code or [Upload your code](#) as file.

Save

C++ (g++ 4.8.4) ▼



```
1 #include <bits/stdc++.h>
2 using namespace std;
3
4 int main()
5 {
6     long long T,N;
7     cin>>T;
8     while(T-->0)
9     {
10         cin>>N;
11         if(N / sqrt(N) != 0)
12             cout<<"-1\n";
13     }
14     return 0;
15 }
16
```

1:1

☒ Provide custom input

COMPILE & TEST

SUBMIT

Press Ctrl-space for autocomplete suggestions.

POWERED BY code table

Your Rating: [Tweet](#)

ABOUT US

[Blog](#)
[Engineering Blog](#)
[Updates & Releases](#)
[Team](#)
[Careers](#)
[In the Press](#)

HACKEREARTH

[API](#)
[Chrome Extension](#)
[CodeTable](#)
[HackerEarth Academy](#)
[Developer Profile](#)
[Resume](#)
[Get Badges](#)
[Campus Ambassadors](#)
[Get Me Hired](#)
[Privacy](#)
[Terms of Service](#)

DEVELOPERS

[AMA](#)
[Code Monk](#)
[Judge Environment](#)
[Solution Guide](#)
[Problem Setter Guide](#)
[Practice Problems](#)
[HackerEarth Challenges](#)
[College Challenges](#)
[College Ranking](#)
[Organise Hackathon](#)
[Hackathon Handbook](#)
[Competitive Programming](#)
[Open Source](#)

EMPLOYERS

[Developer Sourcing](#)
[Lateral Hiring](#)
[Campus Hiring](#)
[Hackathons](#)
[FAQs](#)
[Customers](#)

REACH US

Ground Floor, Salarpuria Business Center,
 4th B Cross Road, 5th A Block,
 Koramangala Industrial Layout,
 Bangalore, Karnataka 560095, India.

✉ contact@hackerearth.com

☎ +91-80-4155-4695

☎ +1-650-461-4192



