

[🏠 Top \(/contests/abc293\)](#)

[☰ Tasks \(/contests/abc293/tasks\)](#)

[❗ Clarifications \(/contests/abc293/clarifications\)](#)

[🚀 Submit \(/contests/abc293/submit?taskScreenName=abc293_f\)](#)

[☰ Results ▾](#)

[⬇️ Standings \(/contests/abc293/standings\)](#)

[🏆 Virtual Standings \(/contests/abc293/standings/virtual\)](#)

[🔧 Custom Test \(/contests/abc293/custom_test\)](#)

[📖 Editorial \(/contests/abc293/tasks/abc293_f/editorial\)](#)

[📖 Editorial \(/contests/abc293/editorial\)](#)

🚀

Time Limit: 3 sec / Memory Limit: 1024 MB

Score : 500 points

Problem Statement

Given an integer N not less than 2 , find the number of integers b not less than 2 such that:

- when N is written in base b , every digit is 0 or 1 .

Find the answer for T independent test cases.

It can be proved that there is a finite number of desired integers b not less than 2 under the constraints of this problem.

Constraints

- $1 \leq T \leq 1000$
- $2 \leq N \leq 10^{18}$
- All values in the input are integers.

Input

The input is given from Standard Input in the following format, where test_i denotes the i -th test case:

```
T
test1
test2
⋮
testT
```

Each test case is given in the following format:

```
N
```

Output

Print T lines. For $i = 1, 2, \dots, T$, the i -th line should contain the answer to the i -th test case.

Sample Input 1

Copy

```
3
12
2
36
```

Copy

Sample Output 1

Copy

```
4
1
5
```

Copy

2023-03-13 (Mon)
23:14:51 +09:00

For the first test case, four b 's satisfy the condition in the problem statement: $b = 2, 3, 11, 12$. Indeed, when $N = 12$ is written in base $2, 3, 11$, and 12 , it becomes $1100, 110, 11$ and 10 , respectively.


Language

C++ (GCC 9.2.1) ▼

Source Code

1

* at most 512 KiB
* Your source code will be saved as `Main.extension`.

 Open File

Toggle Editor

Auto Height

Submit

[\(/#facebook\)](#) [\(/#twitter\)](#) [\(/#telegram\)](#)

(https://www.addtoany.com/share?url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc293%2Ftasks%2Fabc293_f%3Flang%3Den&title=F%20-%20Zero%20or%20One)

[Rule \(/contests/abc293/rules\)](#) [Glossary \(/contests/abc293/glossary\)](#)

[Terms of service \(/tos\)](#) [Privacy Policy \(/privacy\)](#) [Information Protection Policy \(/personal\)](#) [Company \(/company\)](#) [FAQ \(/faq\)](#) [Contact \(/contact\)](#)

Copyright Since 2012 ©AtCoder Inc. (<http://atcoder.co.jp>) All rights reserved.