

# Project Euler #108: Diophantine reciprocals I

## Problem Statement

This problem is a programming version of [Problem 108](#) from [projecteuler.net](#)

In the following equation  $x, y$ , and  $n$  are positive integers.

$$\frac{1}{x} + \frac{1}{y} = \frac{1}{n}$$

For  $n = 4$  there are exactly three distinct solutions:

$$\begin{aligned}\frac{1}{5} + \frac{1}{20} &= \frac{1}{4} \\ \frac{1}{6} + \frac{1}{12} &= \frac{1}{4} \\ \frac{1}{8} + \frac{1}{8} &= \frac{1}{4}\end{aligned}$$

Find the number of distinct solutions for a given value of  $N$

## Input Format

First line contains  $T$  i.e. number of testcases, each of the  $T$  lines contains an integer  $N$

## Constraints

$$1 \leq T \leq 100$$

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

## Output Format

Print the answer for each testcase on a new line.

## Sample Input

```
3
4
7
9
```

## Sample Output

```
3
2
3
```