HackerRank

Project Euler #75: Singular integer right triangles

This problem is a programming version of Problem 75 from projecteuler.net

It turns out that 12cm is the smallest length of wire that can be bent to form an integer sided right angle triangle in exactly one way, but there are many more examples.

12cm: (3,4,5) 24cm: (6,8,10) 30cm: (5,12,13) 36cm: (9,12,15) 40cm: (8,15,17)48cm: (12,16,20)

In contrast, some lengths of wire, like 20cm, cannot be bent to form an integer sided right angle triangle, and other lengths allow more than one solution to be found; for example, using 120cm it is possible to form exactly three different integer sided right angle triangles.

$$120cm:(30,40,50),(20,48,52),(24,45,51)$$

Given that L is the length of the wire, for how many values of $L \leq N$ can exactly one integer sided right angle triangle be formed?

Input Format

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

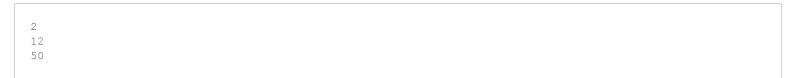
Constraints

$$\begin{aligned} &1 \leq T \leq 10^5 \\ &12 \leq N \leq 5 \times 10^6 \end{aligned}$$

Output Format

Print the required answer for each test case.

Sample Input



Sample Output