Project Euler #75: Singular integer right triangles



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

It turns out that **12***cm* 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.

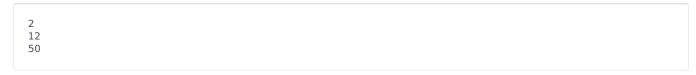
Constraints

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

Output Format

Print the required answer for each test case.

Sample Input



Sample Output

