# **HackerRank**

# Project Euler #42: Coded triangle numbers

This problem is a programming version of Problem 42 from projecteuler.net

The  $n^{th}$  term of a sequence of triangle numbers is given by,

$$t_n = \frac{1}{2}n(n+1)$$

so the first ten triangle numbers are:

$$1, 3, 6, 10, 15, 21, 28, 36, 45, 55, \cdots$$

You are given an integer. If it is a triangular number  $t_n$  , print the term n corresponding to this number, else print -1

#### **Input Format**

First line of input contains an integer T denoting the number of testcases. Each of the next T lines contains an integer.

#### **Constraints**

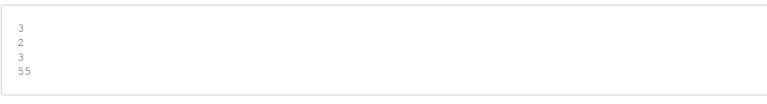
$$1 \le T \le 10^5$$

$$1 \leq t_n \leq 10^{18}$$

### **Output Format**

Print the answer corresponding to each test case in a new line.

## Sample Input



## **Sample Output**

```
-1
2
10
```