Project Euler #12: Highly divisible triangular number



This problem is a programming version of Problem 12 from projecteuler.net

The sequence of triangle numbers is generated by adding the natural numbers. So the 7'th triangle number would be 1+2+3+4+5+6+7=28. The first ten terms would be:

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

Let us list the factors of the first seven triangle numbers:

1:1 3:1,3 6:1,2,3,6 10:1,2,5,10 15:1,3,5,15 21:1,3,7,21 28:1,2,4,7,14,28

We can see that 28 is the first triangle number to have over five divisors.

What is the value of the first triangle number to have over N divisors?

Input Format

First line T, the number of testcases. Each testcase consists of N in one line.

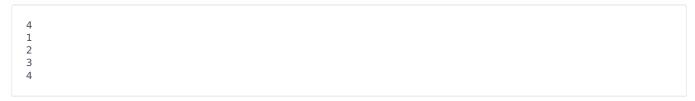
Constraints

- $1 \leqslant T \leqslant 10$
- $1 \le N \le 10^3$

Output Format

For each testcase, print the required answer in one line.

Sample Input



Sample Output



Explanation

Explained in statement.