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 7th triangle number would be 1+2+3+4+5+6+7=28. The first ten terms would be:

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1,3,6,10,15,21,28,36,45,55,...
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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

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

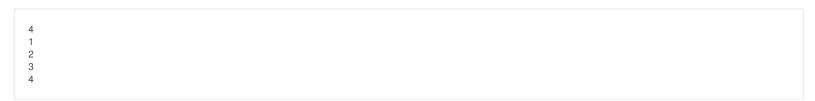
Output

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

Constraints

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

Sample input



Sample output

