Project Euler #9: Special Pythagorean triplet



This problem is a programming version of Problem 9 from projecteuler.net

A Pythagorean triplet is a set of three natural numbers, a < b < c, for which,

$$a^2 + b^2 = c^2$$

For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$

Given N, Check if there exists any Pythagorean triplet for which a+b+c=N Find maximum possible value of abc among all such Pythagorean triplets, If there is no such Pythagorean triplet print -1.

Input Format

The first line contains an integer \boldsymbol{T} i.e. number of test cases.

The next T lines will contain an integer N.

Constraints

- $1 \le T \le 3000$
- $1 \le N \le 3000$

Output Format

Print the value corresponding to each test case in separate lines.

Sample Input 0

2 12 4

Sample Output 0

60 -1

Explanation 0

- For N=12, we have a triplet $\{3,4,5\}$, whose product is 60.
- For N=4, we don't have any pythagorean triple.