Project Euler #39: Integer right triangles

This problem is a programming version of Problem 39 from projecteuler.net

If p is the perimeter of a right angle triangle with integral length sides, {a, b, c}, there are exactly three solutions for $p = 120$
$\{20, 48, 52\}, \{24, 45, 51\}, \{30, 40, 50\}$

For which value of $p \leq N$, is the number of solutions maximised? If there are multiple values print smallest.

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

$1 \leq T \leq 10^5$
$12 \leq N \leq 5 \times 10^6$

Output Format

Print the required answer for each test case.

Sample Input

```
2
12
80
```

Sample Output

```
12
60
```