

## 13221 Elegant Pillars

Assuming that there are  $N$  pillars, and we need to put onto the pillars, a bunch of balls, i.e., numbered 1, 2, 3, 4, 5, ..., in increasing order such that on the same pillar, the sum of the numbers of any 2 adjacent balls is a square number. Calculate the maximum number of balls that can be placed on the  $N$  pillars. You may put the ball on any pillar, but no balls can be skipped. The process stops once you cannot not place a ball.

For example, on 2 pillars, A and B, you can place 1 on pillar A, 2 on pillar B. Then 3 will have to go on pillar A ( $1+3=4$  is a square), and finally 4 cannot be placed (as  $4+4=8$ , and  $2+4=6$  are neither squares), and we are done (ending up with 3 placed balls).

### Input

A number of test cases ( $\leq 1000$ ), one per line, each with  $N$  ( $0 < N < 1000000000$ ).

### Output

For each test case, output the total number of balls on one line.

### Sample Input

```
1
2
```

### Sample Output

```
1
3
```