Problem K
Plus Minus Four Squares
Time limit: 1 second

Every non-negative integer n may be written as the sum of the squares of four integers:

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

By allowing subtraction, n may be written in many more ways; in fact infinitely many.

In this problem you will count the number of different ways to express an input n as a sum or difference of four squares with several restrictions:

First, we need to decide what *different* means.

Any of a, b, c, d may be replaced by its negative. We do not want to count these as *different* so we will only count different *squared* values.

Reordering a, b, c, d does not give a *different* representation.

So, we define a *plus minus four square* representation of a non-negative integer n as a sequence of four perfect squares in *non-increasing* order with plus or minus signs whose computation results in n.

In addition, we add the following restrictions:

- The first square must be no more than n to avoid having infinitely many representations.
- If the same square appears multiple times **all** appearances must be preceded by (a possibly implicit) plus sign or **all** must be preceded by a minus sign. This avoids something like:

  ```
  64 + 36 - 36 + 0
  ```

- A square of zero *must* be preceded by a plus sign.

For example, the only sums of squares which add to 64 are:

```
64 + 0 + 0 + 0
16 + 16 + 16 + 16
```

If we allow minus signs with the above additional restrictions we have the following which each sum up to 64:

```
64 + 25 - 16 - 9
64 - 25 + 16 + 9
64 + 0 + 0 + 0
49 + 49 - 25 - 9
49 + 36 - 25 + 4
49 + 25 - 9 - 1
49 + 16 - 1 + 0
36 + 36 - 9 + 1
36 + 36 - 4 - 4
36 + 25 + 4 - 1
36 + 16 + 16 - 4
16 + 16 + 16 + 16
```

Write a program which takes as input a *non-negative* integer n and outputs a count of the number of different *four square plus minus* representations of n.

Input

Input consists of one line containing a single non-negative decimal integer ($0 < n \leq 5000$).

Output

There is one line of output that consists of a single decimal integer giving a count of the number of different *four square plus minus* representations of n.

Sample Input 1	Sample Output 1
64	12

Sample Input 2	Sample Output 2
65	10

Sample Input 3	Sample Output 3
2023	245