

PCA Challenge 0910-Q2

Fermat vs Pythagoras statement

ENUNCIAT:

Given a positive integer N , you have to write a program that computes one quantity regarding the solution of

$$x^2 + y^2 = z^2$$

where x , y and z are positive integer less than or equal to N . You have to compute the number of triples (x,y,z) such that $x < y < z$ are relative primes, i.e., have no common divisor larger than 1. Warning: that those three values are relative prime doesn't mean that x,y and z are primes taken two by two.

Notes

The input data should be reading from STDIN, and the output should be generated on the STDOUT. The main function should return 0 if the execution is ok.

When you detect the end of the input, **DON'T** print out anything in the STDOUT, you only have to finish.

The maximum execution time is 300 seconds. If your code spends more time than that, we will consider that your code will never finish, and we will kill it.

There is a 50kB (51200 bytes) limit in the size of your source code.

INPUT FORMAT:

The input data is a sequence of positive integers, one per line, by the STDIN. Each integer will be less than or equal to 1,000,000. The sequence will finish with a zero.

OUTPUT FORMAT:

For each integer N given in the input, you have to write out the number of triples (x,y,z) that fit in the equality we show you above and that the values on the triples are relatively prime, and less than or equal to N .

There should be a one output line by STDOUT for each input number.

INPUT EXAMPLE:

```
10
25
100
0
```

OUTPUT EXAMPLE:

```
1
4
16
```