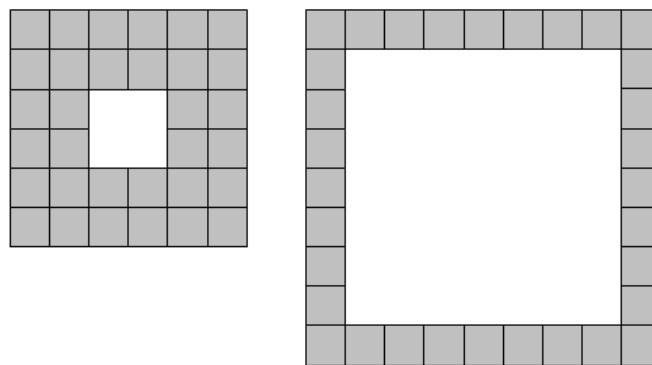


# Project Euler #173: Using up to one million tiles how many different "hollow" square laminae can be formed?

This problem is a programming version of [Problem 173](#) from [projecteuler.net](#)

We shall define a square lamina to be a square outline with a square "hole" so that the shape possesses vertical and horizontal symmetry. For example, using exactly thirty-two square tiles we can form two different square laminae:



With one-hundred tiles, and not necessarily using all of the tiles at one time, it is possible to form forty-one different square laminae.

Using up to  $n$  tiles how many different square laminae can be formed?

## Input Format

The only integer  $n$  is given on the first line.

## Constraints

- $1 \leq n \leq 10^{12}$

## Output Format

Print the only integer which is the number of such square laminae.

## Sample Input 0

```
100
```

## Sample Output 0

```
41
```

## Explanation 0

As written in the statement, for **100** tiles there are only **41** different laminaes.