STUDENT REPORT

DETAILS

Name

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EXPERIMENT

Title

SOLVE THE EQUATION

Description

Given an integer N, your task is to find and return the number of sets of 3 positive integers a, b and c. that satisfy the following equation:

$a^2+b^2+c^2+ab+bc+ca = N$

Note: a, b and c ore positive integers, and their values can be the same.

Input Specification:

input1: An integer value N

Output Specification:

Return an integer value, representing the number of sets of three positive integers that satisfy the equation given above.

Sample Input:

6

Sample Output:

1

Explanation:

The only pair (a,b,c) possible is (1,1,1)

Source Code:

```
def count_sets(N):
    count = 0

    # Iterate through all possible values of a, b, and c
    for a in range(1, N + 1):
        for b in range(1, N + 1):
            for c in range(1, N + 1):
                # Check if the equation holds
                if a**2 + b**2 + c**2 + a*b + b*c + c*a == N:
                    count += 1

    return count

# Sample Test Case
N = int(input())  # Input value for N
print(count_sets(N))  # Output the result
```

RESULT

5 / 5 Test Cases Passed | 100 %