

Fibonacci Issue

Problem :

Leonardo Fibonacci was a great mathematician. He constructed a series defined as follows :

$$F_1 = 0, F_2 = 1;$$

$$F_n = F_{n-1} + F_{n-2};$$

In simple words, the first and second terms of a Fibonacci series is always 1. The remaining terms can be found by taking the sum of last two.

Input :

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows. The input will include the limits for the series. (See sample)

Output :

You are supposed to find the number of Fibonacci numbers lying in between the limits(including both the numbers).

Sample :

Input :

1 //Number Of Test Cases

2

5

Output :

3

Explanation :

As the series goes {1,1,2,3,5,8...}, we can see that from 2 to 5, there are three numbers from the series (ie. 2, 3, 5)

Scoring :

There will be 4 test cases, each valued 25 points.