



Sum Squares

Problem Code: **SMSQR**

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Problem Description

Given two numbers x and y , find the squares of $x, x+1, x+2, \dots, x+n$ where $x+n=y$. After calculating the squares of all those numbers, find the difference between every two consecutive squares. You will get n such numbers. Now, square the n numbers that you get and add them. Display the result mod 10^9+7 .

Note that always $x < y$.

Input

The first line of input contains an integer T denoting the number of testcases. Each test case contains two space-separated integers x and y .

Output

Print the result mod 10^9+7 in a new line.

Constraints

- $1 \leq T \leq 10^5$
- $1 \leq x, y \leq 10^5$

Example

Input:

```
1
1 4
```

Output:

```
83
```

Explanation

There are 4 numbers. The square of 1 is 1, square of 2 is 4, square of 3 is 9 and square of 4 is 16.

Now calculate the difference between every two consecutive squares. Now, we have 3, 5 and 7. Square each of them and add them i.e. $3^2 + 5^2 + 7^2 = 9 + 25 + 49 = 83$.

Author: 3★ [sidhuking07 \(/users/sidhuking07\)](/users/sidhuking07)

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Time Limit: 1 secs

Source Limit: 50000 Bytes

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