CHN08

Crazy Malvika discovers Crazy Fibonacci function

Malvika was getting bored of the usual Fibonacci problems, and decided to add a little twist to it. She defined a new function **f()** with the following properties:

- She'll give you two integers, **A** and **B**. **f(1)** is defined to be **A** and **f(2)** is **B**.
- And for all integers **x ≥ 2, f(x) = f(x-1) + f(x+1)**.

She'll give an integer **N**, and you have to find out what **f(N)** is. Output the answers modulo 10^9+7.

Input

- The first line of input contains a single integer **T** denoting number of test cases.
- The only line of each test case contains three integers: **A**, **B** and **N**, denoting **f(1)**, **f(2)** and the query.

Output

- For each test case, output a line which contains a single integer, corresponding to **f(N)** for the given input.

Constraints

- $1 \leq T \leq 10^5$
- $-10^9 \leq A, B \leq 10^9$
- $1 \leq N \leq 10^9$

Example

Input:
2
10 17 3

2015
23 17 3

Output:
7
1000000001

Explanation

In the first test case, **f(3)** = 7, and so that is the output.

In the second test case, **f(3)** = -6 and the answer modulo $\mathbf{10^9+7}$ is 1000000001.