B. Jzzhu and Sequences

time limit per test
1 second
memory limit per test
256 megabytes
input
standard input
output
standard output

Jzzhu has invented a kind of sequences, they meet the following property:

$$f_1 = x; \quad f_2 = y; \quad \forall\, i\ (i \geq 2),\, f_i = f_{i-1} + f_{i+1}.$$

You are given x and y, please calculate f_n modulo 1000000007 $(10^9 + 7)$.

Input

The first line contains two integers x and y ($|x|, |y| \leq 10^9$). The second line contains a single integer $n (1 \leq n \leq 2 \cdot 10^9)$.

Output

Output a single integer representing f_n modulo 1000000007 $(10^9 + 7)$.

Examples

input

Copy

```
2 3
3
```

output

```
1
```

input

Copy

```
0 -1
2
```

output

```
1000000006
```

Note

In the first sample, $f_2 = f_1 + f_3$, $3 = 2 + f_3$, $f_3 = 1$.

In the second sample, $f_2 = -1$; -1 modulo $(10^9 + 7)$ equals $(10^9 + 6)$.