

Fibonacci Modified

Implement a *modified Fibonacci sequence* using the following definition:

Given terms $t[i]$ and $t[i + 1]$ where $i \in (1, \infty)$, term $t[i + 2]$ is computed as:

$$t_{i+2} = t_i + (t_{i+1})^2$$

Given three integers, $t1$, $t2$, and n , compute and print the n^{th} term of a *modified Fibonacci sequence*.

Example

$t1 = 0$

$t2 = 1$

$n = 6$

- $t3 = 0 + 1^2 = 1$
- $t4 = 1 + 1^2 = 2$
- $t5 = 1 + 2^2 = 5$
- $t6 = 2 + 5^2 = 27$

Return **27**.

Function Description

Complete the *fibonacciModified* function in the editor below. It must return the n^{th} number in the sequence.

fibonacciModified has the following parameter(s):

- *int t1*: an integer
- *int t2*: an integer
- *int n*: the iteration to report

Returns

- *int*: the n^{th} number in the sequence

Note: The value of $t[n]$ may far exceed the range of a 64-bit integer. Many submission languages have libraries that can handle such large results but, for those that don't (e.g., C++), you will need to compensate for the size of the result.

Input Format

A single line of three space-separated integers, the values of $t1$, $t2$, and n .

Constraints

- $0 \leq t_1, t_2 \leq 2$
- $3 \leq n \leq 20$
- t_n may far exceed the range of a 64-bit integer.

Sample Input

0 1 5

Sample Output

5

Explanation

The first two terms of the sequence are $t_1 = 0$ and $t_2 = 1$, which gives us a modified Fibonacci sequence of $\{0, 1, 1, 2, 5, 27, \dots\}$. The 5^{th} term is 5.