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## 1. Fibonacci Modified



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

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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*.

1

### 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

- $0 \leq t1, t2 \leq 2$