Full Name:	Doli
Email:	doliatius@protonmail.com
Test Name:	**Mock Test**
Taken On:	20 Jan 2024 19:52:52 IST
Time Taken:	2 min 55 sec/ 20 min
Linkedin:	https://www.linkedin.com/in/musab-oguz-68990a200/
Invited by:	Ankush
Invited on:	20 Jan 2024 19:52:44 IST
Skills Score:	
Tags Score:	Algorithms 120/120 Core CS 120/120 Dynamic Programming 120/120 Medium 120/120 problem-solving 120/120

100%

120/120

scored in **Mock Test** in 2 min 55 sec on 20 Jan 2024 19:52:52 IST

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	Fibonacci Modified > **Coding**	2 min 50 sec	120/ 120	✓

QUESTION 1

Correct Answer

Score 120

Fibonacci Modified > Coding

Dynamic Programming | Algorithms | Medium | problem-solving | Core CS

QUESTION DESCRIPTION

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

- $0 \leq t1, t2 \leq 2$
- $3 \leq n \leq 20$
- 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 $t1 = 0$ and $t2 = 1$, which gives us a modified Fibonacci sequence of $\{0, 1, 1, 2, 5, 27, \ldots\}$. The 5^{th} term is 5.

CANDIDATE ANSWER

Language used: **Python 3**

```
1
2  #
3  # Complete the 'fibonacciModified' function below.
4  #
5  # The function is expected to return an INTEGER.
6  # The function accepts following parameters:
7  #  1. INTEGER t1
8  #  2. INTEGER t2
9  #  3. INTEGER n
10 #
11
12 def fibonacciModified(t1, t2, n):
```

```
    sys.set_int_max_str_digits(0)
    while n>2:
        sum = 0
        sum = t1 + pow(t2, 2)
        t1 = t2
        t2 = sum
        n -= 1

    return sum

```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0196 sec	10.4 KB
Testcase 2	Easy	Sample case	Success	0	0.1174 sec	10.5 KB
Testcase 3	Easy	Hidden case	Success	15	0.0869 sec	10.7 KB
Testcase 4	Easy	Hidden case	Success	15	0.2499 sec	10.9 KB
Testcase 5	Easy	Hidden case	Success	15	0.0222 sec	10.7 KB
Testcase 6	Easy	Hidden case	Success	15	0.0199 sec	10.8 KB
Testcase 7	Easy	Hidden case	Success	15	0.2943 sec	10.8 KB
Testcase 8	Easy	Hidden case	Success	15	0.0222 sec	10.7 KB
Testcase 9	Easy	Hidden case	Success	15	0.0203 sec	10.8 KB
Testcase 10	Easy	Hidden case	Success	15	0.019 sec	10.5 KB

No Comments