Gak Faham Lagi

Time Limit : 1s
Memory Limit: 256 MB
Author : Zhar

Terdapat sebuah fungsi yang didefinisikan seperti ini

$$f(n) = \begin{cases} 1, & n = 0 \\ 2, & n = 1 \\ a+b, & n = 2 \\ 5, & n = 3 \\ [a\,f(n-2)+b] \bmod 10^9+7, & n = \text{genap}, n > 3 \\ \left[4f(n-2) - 4f(n-4) + \frac{(n-1)^2}{4}\right] \bmod 10^9+7, & n = \text{ganjil}, n > 3 \end{cases}$$

Diberikan input a, b, dan n. Tentukan f(n).

Input:

Bilangan T yang menyatakan banyaknya test case
T baris berikutnya berisi bilangan a b n

output:

T baris berupa f(n)

Constraint:

0 <= T <= 100
1 <= a,b,n <= $2 * 10^9$

Sample input 1:
1
2 3 1

Sample output 1:
2

Sample input 2:
5
2 1 2
2 1 3
2 1 4
2 1 5
2 1 6

Sample output 2:
3
5
7
16
15

Explanation 2:

f(2) = a + b
= 2 + 1
= 3

f(3) = 5 (sesuai definisi fungsi)

f(4) = 2*f(2) + 1
= 2 * 3 + 1
= 7

f(5) = 4*f(3) - 4*f(1) + (5-1)*(5-1)/4
= 4*5 - 4*2 + 4
= 20 - 8 + 4
= 16

f(6) = 2*f(4) + 1
= 2*7 + 1
= 15

HINT 1 : Huruf Pertama dari 2 Kata Pertama judul
HINT 2 : Jika mendapat verdict compiler error atau runtime error, kemungkinan besar programmu terkena memory limit atau stack overflow karena pemanggilan fungsi rekursif yang terlalu banyak, sedangkan kalau time limit jawabannya ada di Hint 1
*Hint 3: **https://its.id/m/HINTFPDPG***

Gak Faham Lagi

Time Limit : 1s
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There is a function defined as follows:

$$f(n) = \begin{cases} 1, & n = 0 \\ 2, & n = 1 \\ a+b, & n = 2 \\ 5, & n = 3 \\ [a\,f(n-2)+b] \bmod 10^9+7, & n = \text{genap}, n > 3 \\ \left[4f(n-2) - 4f(n-4) + \frac{(n-1)^2}{4}\right] \bmod 10^9+7, & n = \text{ganjil}, n > 3 \end{cases}$$

Given inputs a, b, and n, determine f(n).

Input:

An integer T, indicating the number of test cases.
The next T lines each contain three integers a, b, and n.

output:

T lines, each containing the result of f(n).

Constraint:

0 <= T <= 100
1 <= a,b,n <= $2 * 10^9$

Sample input 1:
1
2 3 1

Sample output 1:
2

Sample input 2:
5
2 1 2
2 1 3
2 1 4
2 1 5
2 1 6

Sample output 2:
3
5
7
16
15

Explanation 2:

f(2) = a + b
= 2 + 1
= 3

f(3) = 5 (according to the function definition)

f(4) = 2*f(2) + 1
= 2 * 3 + 1
= 7

f(5) = 4*f(3) - 4*f(1) + (5-1)*(5-1)/4
= 4*5 - 4*2 + 4
= 20 - 8 + 4
= 16

f(6) = 2*f(4) + 1
= 2*7 + 1
= 15

HINT 1 : The first letter of the first two words of the title
HINT 2 : If you get a verdict of compiler error or runtime error, it's most likely that your program hit a memory limit or stack overflow due to excessive recursive function calls. However, if you encounter a time limit, the answer can be found in Hint 1.
Hint 3: https://its.id/m/HINTFPDPG