03 : 05 : 26 : 59
DAY HRS MIN SEC

4 LIVE EVENTS

Codathon - Inter NIT Coding Contest

LIVE

Jan 15, 2017, 06:00 PM IST - Jan 22, 2017, 06:00 PM IST

Day 4 - Daulat Ram's income

Max. Marks: 100

Daulat Ram is an affluent business man. After demonetization, IT raid was held at his accommodation in which all his money was seized. He is very eager to gain his money back, he started investing in certain ventures and earned out of them. On the first day, his income was Rs. **X**, followed by Rs. **Y** on the second day. Daulat Ram observed his growth as a function and wanted to calculate his income on the N^{th} day.

The function he found out was $F_N = F_{N-1} + F_{N-2} + F_{N-1} \times F_{N-2}$

Given his income on day **0** and day **1**, calculate his income on the N^{th} day (yeah Its that simple).

INPUT:

The first line of input consists of a single integer **T** denoting number of test cases.

Each of the next **T** lines consists of three integers F_0, F_1 and **N** respectively.

OUTPUT:

For each test case, print a single integer F_N, as the output can be large, calculate the answer modulo 10^9+7.

CONSTRAINTS:

$1 \le T \le 10^5$

$0 \le F_0, F_1, N \le 10^9$

SAMPLE INPUT

```
2
0 1 2
1 2 4
```

SAMPLE OUTPUT

```
1
107
```


Explanation

In the second test case his income on day **0** is **1** and the income on day **1** is **2**. We need to calculate his income on day **4**.

$F_0=1$

$F_1=2$

$F_2=1 + 2 + 1\times2 = 5$

$F_3=2 + 5 + 2\times5 = 17$

$F_4=5 + 17 + 5\times17 = 107$

Time Limit:	2.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded if any testcase passes.
Allowed Languages:	C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Scala 2.11.8, Swift, Visual Basic

CODE EDITOR

Enter your code or Upload your code as file. Save C (gcc 4.8.4)

```c
#include <stdio.h>

int main()
{
    printf("Hello World!\n");
    return 0;
}

```

4

LIVE EVENTS

1:1

Provide custom input

COMPILE & TEST SUBMIT

Press Ctrl-space for autocomplete suggestions. POWERED BY code table

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

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