

竞赛

练习

公司

搜索开发者, 问题等

03:10:56

Finish Test

Shopee Programming Contest #1

进行中

INVITE ONLY ACCESS

Jun 27, 2020, 02:00 PM CST - Jun 27, 2020, 03:00 PM CST

运行说明

问题

项目提交

LEADERBOARD

分析

判断

Sequences

Max. score: 30

You are on a company visit to Shopee. During the office tour, you noticed that there seems to be a random scribbling on one of the walls. After looking at it closely, you noticed it is actually an algorithm question! Below is the question:

You are given N functions $f(i, j)$ with parameters A_i, B_i, C_i , where the value of $f(i, j)$ is equal to $A_i \times j^2 + B_i$ for each $1 \leq j \leq C_i$. Find how many sequences $(i_1, j_1), (i_2, j_2), \dots, (i_M, j_M)$ of length M are there in which the following holds:

- $f(i_1, j_1) + f(i_2, j_2) + \dots + f(i_M, j_M)$ is divisible by K

Two sequences are different if there is at least one index k , such that $i_k \neq i_k'$ or $j_k \neq j_k'$.

You quickly take note of the question, as maybe it is a draft for an interview question. Solve the question to increase your chance of acing the future interview at Shopee!

Input

The first line contains 3 integers N ($1 \leq N \leq 5,000$), M ($1 \leq M \leq 1,000,000,000$), and K ($1 \leq K \leq 2,000$).

The next N lines each contains 3 integers A_i, B_i, C_i ($0 \leq A_i, B_i < K$) and C_i ($1 \leq C_i \leq 1,000,000,000$), denoting the parameters for the i -th function.

Output

One line containing a single integer, the number of the sequence. Since this number can be very large, output its value modulo 10^9+7 .

SAMPLE INPUT

SAMPLE OUTPUT

3 2 6

0 3 2

1 2 3

2 5 1

12

Explanation

Below are all the possible sequences:

1. (1, 1), (1, 1)

2. (1, 1), (1, 2)

3. (1, 1), (2, 1)

4. (1, 2), (1, 1)

5. (1, 2), (1, 2)

6. (1, 2), (2, 1)

7. (2, 1), (1, 1)

8. (2, 1), (1, 2)

9. (2, 1), (2, 1)

10. (2, 2), (2, 2)

11. (2, 3), (3, 1)

12. (3, 1), (2, 3)

Time Limit:

5.0 sec(s) for each input file.

Memory Limit:

256 MB

Source Limit:

1024 KB

Marking Scheme:

Score is assigned if any testcase passes.

Allowed Languages:

Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift, 4.1, Swift, TypeScript, Visual Basic

CODE EDITOR

保存

C (gcc 5.4.0)

1 /*

2 // Sample code to perform I/O:

3 #include <stdio.h>

4

5 int main(){

6 int num;

7 scanf("%d", &num); // Reading input from STDIN

8 printf("Input number is %d.\n", num); // Writing output to STDOUT

9 }

10

11 // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail

12 /*

13

14 // Write your code here

15

提供自定义输入

编译&测试

提交

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

Your Rating:

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