时间限制：C/C++/Rust/Pascal 6秒，其他语言12秒
空间限制：C/C++/Rust/Pascal 512 M，其他语言1024 M
64bit IO Format: %lld

题目描述

A rectangular board with sides parallel to the coordinate axes lies on a two-dimensional plane. The bottom-left corner of the board has coordinates $(0, 0)$, and the top-right corner has coordinates (W, H).

There are n rectangular posters, the i-th of which has a width of w_i ($1 \leq w_i < W$) and a height of h_i ($1 \leq h_i < H$). These posters are placed fully inside the board randomly and independently, without being rotated or flipped, and the sides are parallel to the coordinate axes. More specifically, the bottom-left corner of the i-th poster has coordinates (x_i, y_i), and the top-right corner has coordinates $(x_i + w_i, y_i + h_i)$, where each x_i is independently and uniformly randomly chosen from $[0, W - w_i]$, and each y_i is independently and uniformly randomly chosen from $[0, H - h_i]$.

You need to find the expected area covered by the n posters modulo $10^9 + 7$.

输入描述:

The first line contains three integers n ($1 \leq n \leq 120$), W, and H ($2 \leq W, H \leq 10^9$), indicating the number of rectangular posters, the width, and the height of the rectangular board.

Then n lines follow, the i-th of which contains two integers w_i ($1 \leq w_i < W$) and h_i ($1 \leq h_i < H$), indicating the width and the height of the i-th rectangular poster.

输出描述:

Output a line containing an integer, indicating the expected area covered by the n posters modulo $10^9 + 7$.

It can be proved that the probability is always a rational number. Additionally, under the constraints of this problem, it can also be proved that when that value is represented as an irreducible fraction p/q, we have $q \not\equiv 0 \pmod{10^9 + 7}$. Thus, there is a unique integer r ($0 \leq r < 10^9 + 7$) such that $p \times r \equiv q \pmod{10^9 + 7}$. This r is what we need.

示例1

输入 复制

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1 2 2
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C++（clang++18）

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ACM模
请通过
入输出
出描述

运行结果 自测