时间限制：C/C++/Rust/Pascal 1秒，其他语言2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

In the game VI Civilization, the player needs to achieve a science victory: accumulating at least s science points in the science victory slot within t turns.

There are n technologies in the game. Initially, only the first technology, $Tech_1$, is unlocked and can be completed. All other technologies are locked. The player must complete the technologies in a fixed sequence: $Tech_1 \to Tech_2 \to \cdots \to Tech_n$. This order cannot be skipped or changed. Specifically, technology $Tech_i$ is unlocked only after all preceding technologies ($Tech_1$ to $Tech_{i-1}$) have been completed.

Completing each technology requires a certain amount of science points. The player can allocate production to trigger the technology's "Eureka" moment, which reduces the science points required for completion.**Each technology's Eureka can only be triggered once**. Upon completing a technology, the science points gained per turn will increase.

Each technology $Tech_i$ has four parameters:

- a_i: The science points required to complete this technology.
- k_i: The increase in science points per turn after completion.
- b_i: The production required to trigger its Eureka.
- c_i: The reduction in required science points after triggering the Eureka ($0 \le c_i < a_i$).

VI Civilization is a turn-based game. In each turn, the player first gains science points and production, and then allocates them. The allocation of science points and production must be **indivisible (cannot be split among multiple tasks)**, and the science points and production gained in the current turn **are not saved for the next turn**.

The game proceeds as follows:

1. At the start of each turn, the player gains:
   - Science points m (after completing technology i, m permanently increases by k_i).
   - A fixed amount of production p (remains constant throughout the game).

2. Then, the player performs actions:
   - **Science Point Allocation:**
     1. Allocate the entire amount of science points m gained this turn to either an unlocked technology or the science victory slot.
     2. When allocating to a technology, any excess points are wasted and do not carry over to the next technology. After completing technology $Tech_i$, m permanently increases by k_i.