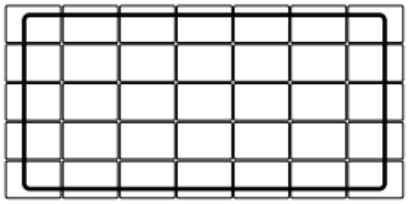
E: Giant Screen

Time Limit: 1 second(s)

You are working in Advanced Computer Monitors (ACM), Inc. The company is building and selling giant computer screens that are composed from multiple smaller screens. Your are responsible for design of the screens for your customers.

Customers order screens of the specified horizontal and vertical resolution in pixels and a specified horizontal and vertical size in millimetres. Your task is to design a screen that has a required resolution in each dimension or more, and has required size in each dimension or more, with a minimal possible price. The giant screen is always built as a grid of monitors of the same type. The total resolution, size, and price of the resulting screen is simply the sum of resolutions, sizes, and prices of the screens it is built from.

You have a choice of regular monitor types that you can order and you know their resolutions, sizes, and prices. The screens of each type can be mounted both vertically and horizontally, but the whole giant screen must be composed of the screens of the same type in the same orientation. You can use as many screens of the chosen type as you need.



Input

The first line of the input file contains four integer numbers r_h, r_v, s_h, and s_v (all from 100 to 10 000 inclusive) — horizontal and vertical resolution and horizontal and vertical size of the screen you have to build, respectively. The next line contains a single integer number n ($1 \le n \le 100$) — the number of different screen types available to you. The next n lines contain descriptions of the available screen types. Each description occupies one line and consists of five integer numbers — $r_{h,i}$, $r_{v,i}$, $s_{h,i}$, $s_{v,i}$, p_i (all from 100 to 10 000 inclusive), where the first four numbers are horizontal and vertical resolution and horizontal and vertical size of i-th screen type, and p_i is the price.

Output

Output a single integer — the minimal price of the specified giant screen.

Sample Input and Output

Sample Input 1	Output for Sample Input
1024 1024 300 300 3 1024 768 295 270 200 1280 1024 365 301 250 1280 800 350 270 210	250

Sample Input 2	Output for Sample Input
2400 2000 800 700 3 1024 768 295 270 200 1280 1024 365 301 250 1280 800 350 270 210	1260