Before delivery, all orders at Jet are packed into boxes to protect them from damage.

Consider a package `pkg` of a given size that needs to be packed into a box chosen from a list of available `boxes`. The package should fit inside the box, keeping in mind that the size of the package should not exceed the size of the box in any dimension (note that the package can be rotated to fit and it can be positioned upside down). For the sake of efficiency, among the available boxes that fit, the one with smallest volume should be chosen.
Given a package `pkg` and available `boxes`, find the 0-based index of the smallest-by-volume box such that the package fits inside it, or return `-1` if there is no such box.
Example

- For `pkg = [4, 2, 5]` and `boxes = [[4, 3, 5], [5, 2, 5]]`, the output should be
  `packageBoxing(pkg, boxes) = 1`.

The package fits into both boxes, but the volume of the first one (`4 * 3 * 5 = 60`) is greater than the volume of the second (`5 * 5 * 2 = 50`).

- For `pkg = [4, 4, 2]` and `boxes = [[2, 4, 4], [4, 4, 3]]`, the output should be
  `packageBoxing(pkg, boxes) = 0`.

The package can fit into the first box if it is rotated, and into the second box as-is, but the first box is chosen because it has less volume overall.

- For `pkg = [4, 5, 3]` and `boxes = [[3, 10, 2], [2, 6, 7], [1, 1, 1]]`, the output should be
  `packageBoxing(pkg, boxes) = -1`.

The package doesn't fit into any of the available boxes.

Input/Output

- **[time limit] 4000ms (py)**
- **[input] array.integer pkg**

  Array of three positive integers denoting the size of the package as its *width*, *height* and *length*.

  Constraints:
  `1 ≤ pkg[i] ≤ 500`.
- **[input] array.array.integer boxes**

Every box is given as an array of three positive integers denoting its *width*, *height* and *length*.
It is guaranteed that each box has a unique volume.

Constraints:
`0 ≤ boxes.length ≤ 15`,
`1 ≤ boxes[i][j] ≤ 500`.

- **[output] integer**

  The 0-based index of the smallest-by-volume box such that the package fits inside it, or `-1` if there is no such box.