Problem H: Pandora's Box

Filename: `h`
Time Limit: `1 second`

Zeus is crafting a box that definitely doesn't have any nasty things inside it. To fit all of his gifts in the box while also keeping it organized he plans to make the volume of the box **V** cubic inches. However since he is a prideful and bombastic deity he will express V as the equation A^B so that the volume can be exorbitant while also being easy to write. The box must be a rectangular prism with integer side lengths. You must calculate the number of distinct valid dimensions for the Zeus' box. Formally two boxes are considered different if the ordered triple of the Width Height and Length differ in value at any point. I.E {1,2,1} ≠ {2,1,1}

Problem
Given A, B find the number of rectangular prisms with integer side lengths that have a volume of exactly A^B**.**

Input
The first line contains a single integer **T** representing the number of different volumes Zeus would like information about. Following are T lines each containing two integers **A** and **B**.

Output
For each volume output a single integer X representing the number of distinct rectangular prisms that have integer dimensions and a volume of A^B. Since this number can be quite large output it mod $10^9 +7$.

Input Bounds and Corresponding Credit

- $1 \le$ **T** ≤ 100
- $1 \le$ **A, B** ≤ 1000

Samples

Input	Output
4 1 1 2 1 6 1 12 4	1 3 9 675