## Truck Tour

Suppose there is a circle. There are **N** petrol pumps on that circle. Petrol pumps are numbered **0** to (**N−1**) (both inclusive). You have **two pieces of information** corresponding to each of the petrol pump: (1) the **amount of petrol** that petrol pump will give, and (2) the **distance from that petrol pump** to the next petrol pump (kilometers).

Initially, you have a tank of infinite capacity carrying no petrol. You can start the tour at **any** of the petrol pumps. Calculate the **first point** from where the truck will be able to complete the circle. Consider that the truck will stop at **each of the petrol pumps**. The truck will move one kilometer for each liter of the petrol.

### Input

* The first line will contain the value of **N**
* The next **N** lines will contain a pair of integers each, i.e. the amount of petrol that petrol pump will give and the distance between that petrol pump and the next petrol pump

### Output

* An integer which will be the smallest index of the petrol pump from which we can start the tour

### Constraints

* **1 ≤ N ≤ 1000001**
* **1 ≤ Amount of petrol, Distance ≤ 1000000000**

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 3  1 5  10 3  3 4 | 1 |  |