Christmas Cards

For Christmas, Firebat received a new Hearthstone (a card game) expansion! In this game there is a deck of N cards. Unfortunately for him, this expansion only contained draw cards. Each card has a mana cost c_i and draw d_i cards from the top of the deck. Still the optimist, Firebat created a deck out of only these draw cards. We all know Firebat is the ultimate hearthstone player, and thus, knows exactly the order of the cards in his deck, does not have a hand limit and can use more than 10 mana. Nevertheless, he would like to maximize value. He starts off the game with only the first card of his deck in his hand (it's only fair for his opponent). Help him by determining the minimum mana he needs to spend in order to draw his entire deck (and possible overdraw).

It will always be possible to draw all cards. Once Firebat plays a card, he cannot play it again.

Input Specification

First line: N $(1 \leq N \leq 5\,000)$, the number of cards in his deck.
Next N lines: the c_i and d_i values of the ith card of Firebat's deck (from top to bottom). $(0 \leq c_i, d_i \leq 10^9)$.

Output Specification

A single integer, the minimum mana he must spend to draw his entire deck.

Sample Input

```
8
20 3
5 0
13 3
9 3
18 2
4 1
17 1
8 0
```

Sample Output

```
33
```

Explanation

For the minimal cost, Firebat should play the first card, drawing the next three. He should then play the fourth card and then the sixth card, emptying the deck. This gives a total of 33 mana.