Pebbles!

A game played using pebbles in a distant village of an asian country is as follows.

There are K colours of pebbles. Collecting n_i pebbles of colour i will earn you p_i points. There are a_i amount of colour i pebbles in total. Each player knows the total no of pebbles of each colour. The game proceeds as follows,

- Player 1 splits the $N = q_1 + q_2 + ... + q_m$ pebbles into two piles of N/2 pebbles. Player 1 name them pile 1 and pile 2. (He can call any pile, pile 1 as he wish)
- Player 1 and player 2 takes turns taking pebbles from pile 1. Player 1 starts first. After finishing, the player count the total score they can form using the pebbles they picked and add it to their total score.
- Player 1 and player 2 takes turns taking pebbles from pile 2. Player 2 starts first. After finishing, the players count the total score they can form using the pebbles they picked (note that the pebbles from pile 1 aren't counted here) and add it to their total score.

Player 1's goal to maximize his score while player 2 wants to minimize player 1's score. You need to find the maximum score player 1 can achieve if they both play optimally.

Input Format

The first line of input contains single integer K denoting no of colours of pebbles.

The next K lines of input contains 3 space-seperated integers, where i^{th} line contains the integers n_i a_i p_i

Constraints

- $1 \leq K \leq 2000$
- $1 \leq n_i \leq n_1 + n_2 + ... + n_K \leq 2000$ for all i
- $1 \leq p_i \leq 3000$ for all i
- $1 \leq a_i \leq a_1 + a_2 + ... + a_K \leq 500000$ for all i
- $a_1 + a_2 + ... + a_K$ is even

Output Format

Output a single integer, the maximum score player 1 can achieve if both players play optimally.

Sample Input 0

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1
7 26 2261
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Sample Output 0

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2261
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Explanation 0

For this example there is only one way to partition all the pebbles into two equal piles, which is giving 13 pebbles to each pile.

It is clear that no matter how the players choose the pebbles they take each turn, the result is the same. Namely,

For pile 1, player 1 will get 7 pebbles of colour 1 and player 2 gets 6 cards of colour 1. player 1 gets 7/7 and score 2261 points.

For pile 2, player 1 gets 6 pebbles of colour 1 and player 2 gets 7 pebbles of colour 1. player 1 gets 6/7 and no points.

So, total score is 2261 + 0 = 2261 points.