Vampire Crawlers

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

Recently, the roguelike deckbuilder "Vampire Crawlers", developed by poncle, has been officially released. In the game, players build decks and play cards during combat to deal damage. The core mechanic is the combo system: when you play cards in ascending order of mana cost, the damage multiplier keeps stacking.

You currently have n cards, where the i-th card has a cost and a base damage. You need to choose an order to play all n cards one by one. When you play a card:

- If this is NOT the first card played, and its cost is equal to that of the previous card plus 1, the damage multiplier is increased by 1.
- Otherwise, the damage multiplier is reset to 1.

After updating the damage multiplier, the damage dealt by this card is calculated as its base damage times the multiplier.

You need to find the maximum possible total damage.

Input

There are multiple test cases. The first line of the input contains an integer T ($1 \le T \le 10^4$), indicating the number of test cases. For each test case:

The first line contains an integer n ($1 \le n \le 2 \times 10^5$), indicating the number of cards.

For the following n lines, the i-th line contains two integers a_i and b_i ($0 \le a_i \le 10^9$, $1 \le b_i \le 10^6$), indicating the cost and damage of the i-th card.

It is guaranteed that the sum of n over all test cases does not exceed 2×10^5.

Output

For each test case, output one line containing an integer, indicating the maximum total damage.

Example

standard input	standard output
2 9 1 3 3 10 6 4 1 2 5 8 0 5 2 7 6 1 2 7 1 1000000000 1000000	105 1000000

Note

For the first sample test case, play the cards in the order of $6, 1, 9, 2, 8, 4, 7, 5, 3$. The total damage is $5 \times 1 + 3 \times 2 + 7 \times 3 + 10 \times 4 + 1 \times 1 + 2 \times 1 + 7 \times 2 + 8 \times 1 + 4 \times 2 = 105$.