

Problem K: Knavish Knockout

Time limit: 2 seconds



ICHILDE has just received shocking news from her magic mirror. Not only is Blanca, her unbeloved stepchild, alive and well, but on top of that, she is still the fairest of them all! Richilde, who has already made several failed attempts to get rid of Blanca using poisoned soaps and letters, is furious. This time, she decides to take care of the problem on her own.

Richilde knows that Blanca lives in a cottage in a far away forest together with $n - 1$ dwarfs. She plans to travel to this forest to execute the following plan: for k consecutive days, Richilde will visit the cottage disguised as an old peddler and sell n poisoned apples for them to eat at their dinner.

With help from her court physician Sambul, Richilde has collected $n \cdot k$ apples from his special apple tree, which bears fruit ingrained with a slow acting poison. Each apple has a certain size and contains a certain amount of poison. Since dwarfs are known for their hearty appetite and since she knows Blanca to be quite modest, Richilde is confident that each day at dinner, Blanca will eat the smallest apple that was sold on that day. The remaining $n - 1$ apples will be eaten by the dwarfs. Of course, Richilde wants to maximize the total amount of poison that is consumed by Blanca. To achieve this, she will carefully select which n apples to sell on each of the k days.

Unbeknownst to Richilde, Sambul has long ago ensured that all poisonous soaps, letters and apples that Richilde might use in her wicked plans are actually laced with a non-lethal sleeping poison. He is therefore confident that Blanca will yet again survive Richilde's latest attempt. However, he is still worried about Blanca's health and wonders how much of the sleeping poison she will consume in total. What is the maximum total amount of poison that Blanca will consume, given that Richilde can choose which apples to sell on each day?



Richilde selling her apples.
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Input

The input consists of:

- One line with two integers n, k ($1 \leq n, k \leq 10^5$, $n \cdot k \leq 2 \cdot 10^5$), the number of apples sold each day and the number of days.
- $n \cdot k$ lines, the i th of which contains two integers s_i, p_i ($1 \leq s_i, p_i \leq 10^9$), the size and poison amount of the i th apple.

It is guaranteed that all sizes s_i are distinct.

Output

Output the maximum total amount of poison that will be consumed by Blanca (the total amount is the sum over the poison values of all apples she will eat).

Sample Input 1	Sample Output 1
2 3	30
1 10	
2 10	
3 10	
6 5	
7 5	
8 5	
Sample Input 2	Sample Output 2
3 3	23
1 8	
2 5	
9 4	
8 8	
6 7	
7 4	
3 8	
4 4	
5 6	