2010 PAPER TRAIL

Through that small knot of villages known as *The Endians*, meandering with a mazy motion, is a river along which lie many houses. The arduous, if aesthetic, distribution of newspapers to these houses is the task of a dedicated team of punting paperboys.

When travelling between two houses, the effort involved depends on the papers still to be delivered; it is the product of the distance to be travelled and the number of carried papers. When delivering papers, a paperboy will deliver to the houses in an order that involves the smallest amount of effort.

Union regulations prevent paperboys from leaving their punt or the papers unattended (until delivered) so the punt can only travel up and down the river and undelivered papers are always carried in the punt.

For example, suppose houses A, B and C are situated along the river at positions 1, 2 and 6 respectively and that the paperboy starts off at position 4. In addition, suppose that house A gets 3 papers, B gets 2 papers and C gets a single paper. If the deliveries were made in the order C, B, A the effort involved would be (6-4)×6 + (6-2)×5 + (2-1)×3 = 35. The route B, A, C is more efficient with an effort of only 21.

SAMPLE INPUT

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3 4
1 3
2 2
6 1
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The first line of input will consist of a pair of integers, h ($1 \leq h \leq 2^8$) then s ($1 \leq s \leq 2^{16}$), indicating the number of houses along the river and the starting position of the paperboy respectively. This will be followed by h lines, each of which will contain a pair of integers, p ($1 \leq p \leq 2^{16}$) then n ($1 \leq n \leq 2^8$), indicating the position of a house then the number of papers that will be delivered there. The houses will be given in order along the river bank and no two houses will have the same position. The paperboy will not start at any house.

You should output a single integer, the minimum amount of effort required to deliver all of the papers. No solution will require an answer larger than 2^{31}.

SAMPLE OUTPUT

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21
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