Problem C. Wall Painting

Input file:	*standard input*
Output file:	*standard output*
Time limit:	6 seconds
Memory limit:	256 mebibytes

Here stands a wall made of a number of vertical panels. The panels are not painted yet.

You have a number of robots each of which can paint panels in a single color, either red, green, or blue. Each of the robots, when activated, paints panels between a certain position and another certain position in a certain color. The panels painted and the color to paint them are fixed for each of the robots, but which of them are to be activated and the order of their activation can be arbitrarily decided.

You'd like to have the wall painted to have a high aesthetic value. Here, the aesthetic value of the wall is defined simply as the sum of aesthetic values of the panels of the wall, and the aesthetic value of a panel is defined to be:

- 0, if the panel is left unpainted.
- The bonus value specified, if it is painted only in a single color, no matter how many times it is painted.
- The penalty value specified, if it is once painted in a color and then overpainted in one or more different colors.

Input

First line of the input contains four integers n, m, x and y. n is number of panels ($1 \leq n \leq 10^9$). m is number of robots ($1 \leq m \leq 2 \cdot 10^5$). x and y are integers between 1 and 10^5, inclusive. x is the bonus value and $-y$ is the penalty value. The panels of the wall are consecutively numbered 1 through n.

Each of next m lines describe one robot. The i-th line contains three integers c_m, l_m and r_m and tells that the i-th robot, when activated, paints all the panels of numbers l_i through r_i ($1 \leq l_i \leq r_i \leq n$) in color with color number c_i ($c_i \in \{1, 2, 3\}$. Color numbers 1, 2, and 3 correspond to red, green, and blue, respectively.

Output

Output a single integer in a line which is the maximum achievable aesthetic value of the wall.

Examples

standard input	standard output
8 5 10 5 1 1 7 3 1 2 1 5 6 3 1 4 3 6 8	70
26 3 9 7 1 11 13 3 1 11 3 18 26	182
21 10 10 5 1 10 21 3 4 16 1 1 7 3 11 21 3 1 16 3 3 3 2 1 17 3 5 18 1 7 11 2 3 14	210
21 15 8 7 2 12 21 2 1 2 3 6 13 2 13 17 1 11 19 3 3 5 1 12 13 3 2 2 1 12 15 1 5 17 1 2 3 1 1 9 1 8 12 3 8 9 3 2 9	153