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Triangles in the Grid

Input: Standard Input
Output: Standard Output



There is a grid of $n*m$ unit squares, which has $n+1$ horizontal lines, $m+1$ vertical lines and $(n+1)(m+1)$ intersection vertices. You can choose three distinct **non-collinear** vertices to form a triangle. For example, if $n=m=1$, there are 4 vertices, which can form 4 triangles.

How many of these triangles have area between A and B (inclusive)?

Input

The first line contains the number of test cases T ($T \leq 25$). Each test case contains four integer n, m, A, B ($1 \leq n, m \leq 200, 0 \leq A < B \leq nm$).

Output

For each test case, print the number of triangles whose area is between A and B , inclusive.

Sample Input

Output for Sample Input

4	4
1 1 0 1	6
1 2 1 2	27492
10 10 20 30	1737488
12 34 56 78	

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