Problem B
Building Boundaries
Time limit: 1 second

Maarja wants to buy a rectangular piece of land and then construct three buildings on that land.

The boundaries of the buildings on the ground must have rectangular sizes $a_1 \times b_1$, $a_2 \times b_2$, and $a_3 \times b_3$. They can touch each other but they may not overlap. They can also be rotated as long as their sides are horizontal and vertical.

What is the minimum area of land Maarja has to buy?

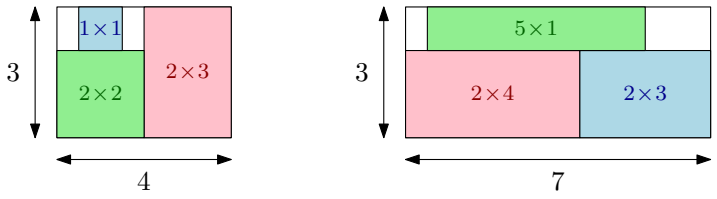


Figure B.1: Illustration of the two test scenarios in Sample Input 1 and their solutions. In the second scenario the 5×1 building has been rotated by 90 degrees.

Input

The input consists of multiple test scenarios. The first line of input contains a single integer t ($1 \leq t \leq 1000$), the number of scenarios. Then follow the t scenarios. Each scenario consists of a single line, containing six integers a_1, b_1, a_2, b_2, a_3 and b_3 ($1 \leq a_1, b_1, a_2, b_2, a_3, b_3 \leq 10^9$).

Output

For each test scenario, output the minimum area of land such that Maarja can construct the three buildings.

Sample Input 1	Sample Output 1
2 2 3 2 2 1 1 2 4 5 1 2 3	12 21

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