Problem B. The Difference

Alice was always good at math. Her only weak points were multiplication and subtraction. To help her with that, Bob presented her with the following problem.

He gave her four positive integers. Alice can change their order optionally. Her task is to find an order, denoted by A_1, A_2, A_3 and A_4, with the maximum value of $A_1 \times A_2 - A_3 \times A_4$.

Input

The input contains several test cases and the first line provides an integer t ($1 \leq t \leq 100$) indicating the number of cases.

Each of the following t lines contains four space-separated integers.

All integers are positive and not greater than 100.

Output

For each test case, output a line with a single integer, the maximum value of $A_1 \times A_2 - A_3 \times A_4$.

Example

standard input	standard output
5 1 2 3 4 2 2 2 2 7 4 3 8 100 99 98 97 100 100 1 2	10 0 44 394 9998