

Problem

Chef has two integers A and B .

Chef wants to find the **minimum** value of $\text{lcm}(A, X) - \text{gcd}(B, X)$ where X is any positive integer.

Help him determine this value.

Note: $\text{gcd}(P, Q)$ denotes the greatest common divisor of P and Q and $\text{lcm}(P, Q)$ denotes the least common multiple of P and Q .

Input Format

- The first line contains a single integer T — the number of test cases. Then the test cases follow.
- The first and only line of each test case contains two space-separated integers A and B — the integers mentioned in the statement.

Output Format

For each test case, output the minimum value of $\text{lcm}(A, X) - \text{gcd}(B, X)$.

Constraints

- $1 \leq T \leq 10^5$
- $1 \leq A, B \leq 10^9$

Sample 1:

Input	Output
3	9
12 15	0
5 50	8
9 11	

Explanation:

Test case 1: For $X = 6$: $\text{lcm}(12, 6) - \text{gcd}(15, 6) = 12 - 3 = 9$ which is the minimum value required.

Test case 2: For $X = 50$: $\text{lcm}(5, 50) - \text{gcd}(50, 50) = 50 - 50 = 0$ which is the minimum value required.

Test case 3: For $X = 1$: $\text{lcm}(9, 1) - \text{gcd}(11, 1) = 9 - 1 = 8$ which is the minimum value required.

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