The Very Greatest Common Divisor

Given two integers a and b find their greatest common divisor.

Input

The first line of the input file contains number $0 < n < 1000$ the amount of tests. The description of n test cases follow. The description of a test case consists of two lines. The first line contains integer a ($0 < a < 10^{12540}$), the second – integer b ($0 < b < 10^{12540}$). It is also known that all the numbers in the input file are the determinants of the square matrix of the form:

$$\begin{pmatrix} 1 & 1 & 0 & \cdots & 0 \\ -1 & 1 & 1 & \ddots & \vdots \\ 0 & -1 & \ddots & \ddots & 0 \\ \vdots & \ddots & \ddots & \ddots & 1 \\ 0 & \cdots & 0 & -1 & 1 \end{pmatrix}$$

Output

For each test case print the greatest common divisor of integers a and b on a separate line.

Example

Input:
3
2
3
3
21
6765
610

Output:
1
3
5