

Coprime

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 1024 megabytes

You are given 2 positive integers x , y , and your task is to find a positive integer z which satisfies:

- $x < z < y$.
- $\gcd(z, y) = 1$ and $\gcd(z, x) = 1$.

If there are multiple answers, you can output any. If there is no valid z , output -1 .

Input

The first line contains the number of testcases T ($1 \leq T \leq 10^4$).

For each testcase,

The first and only line contains two integers x and y ($1 \leq x, y \leq 10^{10}, x + 2 \leq y$).

Output

For each testcase, if the answer exists, output your answer in one line. Otherwise, output -1 .

Example

standard input	standard output
3	2
1 3	117
115 125	-1
2184 2200	