Problem E. Garbage Disposal

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

There are 10^9 types of garbage and 10^9 types of garbage bins in your country. You are only allowed to dispose garbage of type x into a garbage bin of type y if $\gcd(x, y) = 1$, where $\gcd(x, y)$ denotes the greatest common divisor (GCD) of integers x and y.

In your neighborhood, only garbage of type $L \le x \le R$ ever occurs, and there are only garbage bins of types $L \le y \le R$ available. To avoid overflowing the bins, you want to throw each piece into distinct bin. Given L and R, find a valid distribution or report that it does not exist.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 10^5$). Description of the test cases follows.

The first line of each test case contains two integers L and R ($1 \le L \le R \le 10^9$).

It is guaranteed that the sum of $R - L + 1$ over all test cases does not exceed 10^5.

Output

For each test case, if there is no valid distribution print -1.

Otherwise, output $R - L + 1$ distinct integers $y_L, y_{L+1}, \ldots, y_R$ ($L \le y_i \le R$), such that $\gcd(y_i, i) = 1$ for every i from L to R.

If there are multiple solutions, print any.

Example

standard input	standard output

`3`
`1 5`
`10 13`
`100 100`
	`2 1 4 5 3`
	`11 10 13 12`
	`-1`

Note

In the first test case, $\gcd(1, 1) = \gcd(2, 3) = \gcd(3, 4) = \gcd(4, 5) = \gcd(5, 2) = 1$.

In the second test case, $\gcd(10, 13) = \gcd(11, 10) = \gcd(12, 11) = \gcd(13, 12) = 1$.

In the third test case, the only possible assignment is $y_{100} = 100$, but $\gcd(100, 100) = 100 \ne 1$.