## Prime Generator

Peter wants to generate some prime numbers for his cryptosystem. Help him! Your task is to generate all prime numbers between two given numbers!

## Input

The input begins with the number $t$ of test cases in a single line ( $t<=10$ ). In each of the next $t$ lines there are two numbers m and $\mathrm{n}(1<=\mathrm{m}<=\mathrm{n}<=1000000000$, $\mathrm{n}-\mathrm{m}<=100000)$ separated by a space.

## Output

For every test case print all prime numbers $p$ such that $m<=p<=n$, one number per line, test cases separated by an empty line.

## Example

Input:
2
110
35
Output:
2
3
5
7

3
5
Warning: large Input/Output data, be careful with certain languages (though most should be OK if the algorithm is well designed)

## Information

After cluster change, please consider PRINT as a more challenging problem.

