

# 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 ( $t \leq 10$ ). In each of the next  $t$  lines there are two numbers  $m$  and  $n$  ( $1 \leq m \leq n \leq 1000000000$ ,  $n - m \leq 100000$ ) separated by a space.

## Output

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

## Example

### Input:

```
2
1 10
3 5
```

### 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.