

# Prime Generator The Easiest Question Ever

Prime number questions are always being favorite to everyone. This question is extension to the problem [PRIME GENERATOR](#). The question is very very simple and easier than that you cannot imagine. You have to count total number of such primes  $p$  in the range  $[a \geq 0, b > 0]$  so that  $(p^2 + 1)$  or/and  $(p^2 + 2)$  is/are prime(s).

## Input

First line of input is  $t$ , ( $t < 100$ ) total number of test cases. Next  $t$  lines contains two integers  $a$  and  $b$  separated by space.

$a < 50001$ ,  $b < 100001$  and  $b > a$ .

## Output

In each line print total numbers of such prime numbers.

## Example

Input:

```
2
0 1
4 5
```

Output:

```
2
0
```

**[Consider 0 and 1 as prime numbers for this question]**