

Consider an integer sequence  $N$  where,

$$N_0 = 1$$

$$N_i = N_{i-1} + NOD(N_{i-1}) \text{ for } i > 0$$

Here,  $NOD(x)$  = number of divisors of  $x$ .

So the first few terms of this sequence are 1 2 4 7 9 12 18

...

Given two integers  $A$  and  $B$ , find out the number of integers in the above sequence that lies within the range  $[A, B]$ .

$$\begin{array}{r} 100 \rightarrow 1 \ 2 \ 4 \ 5 \ 10 \\ 100 \ 50 \ 25 \ 20 \\ \hline 9 \text{ DIVISORS} \end{array}$$

## Input

The first line of input is an integer  $T$  ( $T < 100000$ ), that indicates the number of test cases. Each case contains two integers,  $A$  followed by  $B$  ( $1 \leq A \leq B \leq 1000000$ ).

## Output

For each case, output the case number first followed by the required result.

## Sample Input

```
3
1 18
1 100
3000 4000
```

## Sample Output

```
Case 1: 7
Case 2: 20
Case 3: 87
```