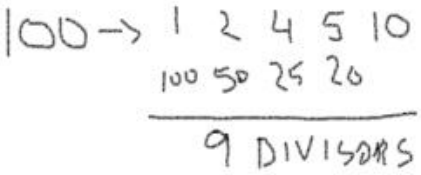
UVa Online Judge

11876 N + NOD (N)

Consider an integer sequence N where,

$N_0 = 1$
$N_i = N_{i-1} + NOD(N_{i-1})$ 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 $[A, B]$.

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
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