Digit Sum

Problem ID: digitsum
CPU Time limit: 1 second
Memory limit: 1024 MB
Difficulty: 5.4

For a pair of integers a and b, the digit sum of the interval $[a, b]$ is defined as the sum of all digits occurring in all numbers between (and including) a and b. For example, the digit sum of $[28, 31]$ can be calculated as:

$$2+8 \; + \; 2+9 \; + \; 3+0 \; + \; 3+1 = 28$$

Given the numbers a and b, calculate the digit sum of $[a, b]$.

Source: Benelux Algorithm Programming Contest (BAPC) 2012

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Input

On the first line one positive number: the number of test cases, at most 100. After that per test case:

- one line with two space-separated integers, a and b ($0 \le a \le b \le 10^{15}$).

Output

Per test case:

- one line with an integer: the digit sum of $[a, b]$.

Sample Input 1

```
3
0 10
28 31
1234 56789
```

Sample Output 1

```
46
28
1128600
```