More Categories. . .

based on a problem by Nikola Dmitrović

Ada likes to find interesting patterns in numbers. In particular, she is only interested in the integers. In fact, Ada sometimes says that the real numbers aren't *real* at all! Anyway, she likes to find connections between different numbers. Yesterday, she started to categorize numbers by the sum of the digits in their decimal representation. So, she says that the numbers 71 and 323 are both in category 8, because the sum of their digits is 8.

Her friend Emma wants to understand these categories a bit better, and therefore challenges Ada to find the minimal and maximal numbers in a certain category x. Emma knows very well that there are infinitely many numbers in every category $x > 0$ so she also limits the search to a certain range $[a, b]$.

You might think you're having a *déjà vu*, but you must help Ada answer Emma's questions.

Input

The first line contains a positive integer $T \leq 100$ that is the number of questions. Each of the following T lines contains three positive integers a, b, and x, separated by spaces, such that $a \leq b$ and $a, b, x \leq 10^{19}$.

Output

For each of the T questions, output one line containing two integers l and h, separated by a single space, such that l and h are the minimal and maximal numbers in category x in the range $[a, b]$, respectively. If no such numbers exist, then the output line should consist of the word "none".

Sample input 1

```
4
1 100 4
10 2000 13
50 190 19
1 20 10
```

Sample output 1

```
4 40
49 1930
none
19 19
```

Limits

Time limit is 1 second.

Memory limit is 256 megabytes.