DIGITS COUNT

Diana is going to write a list of all positive integers between A and B, inclusive, in base 10 and without any leading zeros. She wants to know how many times each digit is going to be used

Input

Each test case is given in a single line that contains two integers A and B ($1 \leq A \leq B \leq 10^8$).

The last test case is followed by a line containing two zeros.

Output

For each test case output a single line with 10 integers representing the number of times each digit is used when writing all integers between A and B, inclusive, in base 10 and without leading zeros. Write the counter for each digit in increasing order from 0 to 9.

Example

Input:

1 9

12 321

5987 6123

12345678 12345679

0 0

Output:

0 1 1 1 1 1 1 1 1 1

61 169 163 83 61 61 61 61 61 61

134 58 28 24 23 36 147 24 27 47

0 2 2 2 2 2 2 2 1 1