digit count

Given two integers a and b, we write the numbers between a and b, inclusive, in a list. Your task is to calculate the number of occurrences of each digit except zero.

For example, if a = 1024 and b = 1032, the list will be 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032. There are ten 1s, seven 2s, three 3s, etc.

Input

The input consists of up to 500 lines. Each line contains two numbers a and b, where 1 <= a, b <= 10^16. The input terminates when a is 0.

Output

For each pair of input, output a line containing ten numbers separated by single spaces. The first number is the number of occurrences of the digit 1, the second is the number of occurrences of the digit 2, etc.

Example

input
1 10
0 0

output
2 1 1 1 1 1 1 1 1