Very Fast Division

Given two positive integers A and B, compute the unique Q and R such that A = Q * B + R and 0 <= R < B. That is, compute the quotient, Q, and the remainder, R, of A divided by B.

Input

The first line contains a single integer T (1 <= T <= 10), indicating the number of test cases. Each test case contains a single line with A and B separated by a space. A and B will be positive integers with no more than 100,000 decimal digits with no leading zeroes.

Output

For each test case output a single line containing Q and R separated by a space.

Example

Input:
3
128 10
4320 321
12345678900987654321123456789009876543 21 9876543210012345678 9

Output:
12 8
13 147
12499999887078125001 82208718896223572532

Note: Submissions that are little more than using your language's built in big integer library are subject to disqualification without notice.