Compare two Large Numbers

You will be given two numbers **A** and **B**. Your task is to print 1 if **A** < **B**, print 2 if **A** > **B** and print 3 if **A** = **B**.

Input:
The first line of input contains a single integer **T** denoting the number of test cases. Then **T** test cases follow. Each test case consists of two lines. The first line of each test case contains an integer A and the second line of each test case contains an integer B. There might be leading zeros.

Output:

Corresponding to each test case, in a new line, print 1, 2 or 3 accordingly if **A** < **B**, **A** > **B** or **A** = **B**.

Constraints:

$1 \leq \mathbf{T} \leq 100$

$0 \leq \mathbf{A}, \mathbf{B} \leq 10^{155}$

Example:

Input

3
1234
12345
100
1
00999
100

Output

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1
2
2
```