Inversion

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Timelimit: 3

Peter is a curious boy who liked electronics. One day, the boy was playing in his school lab and found a box full of small electronic devices made by other students in previous years.

Inside that box was a device that had only one display and two buttons. This display had an integer. Pressing the buttons, Peter discovered the functions for each of the buttons. The first button add a unit to the number on the display. The second button reverse the digits, for example, 123 inverted is 321 and 150 inverted is 51 (ignore the leading zeros).

Initially, the display showed the number A. After discover the functions of the buttons, Peter wants to know how to change the display number of A to a greater number equal to B. Your job in this problem is to help Peter to find out what the minimum number of button pressings to make the display the number be equal to B.

Input

The input is started by an integer T, $0 < T \leq 500$, which indicates the number of test cases. After this, the input consists of T lines, each one containing two integers A and B, $0 < A < B < 10000$, A is equal to the initial value on the display and B is equal to the final number we need to get on the display.

Output

For each test, your program must output one integer equal to the minimum number of button pressings to make the number A on the displays change to the number B.

Sample Input	Sample Output
4	
	8
1 9	
	4
100 301	
	3
808 909	
	3
133 233	

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