Problem C. Best Carry Player 2

Input file: standard input
Output file: standard output

Given a positive integer x, find the minimum positive integer y such that the number of **carries**[1] of $x+y$ is exactly k.

We adds numbers **by column addition in base-ten**, just like what we normally do in primary school. For example, there are two carries in the following addition.

carry	*1*		*1*	
		6	7	6
+		5	1	8
	1	1	9	4

Input

The first line contains an integer T ($1 \le T \le 10^5$) – the number of test cases.

For each test case, the first line contains two integers x, k ($1 \le x < 10^{18}, 0 \le k \le 18$).

Output

For each test case, output one integer representing the answer in one line. If there is no solution, output -1 instead.

Example

standard input	standard output
4 12345678 0 12345678 5 12345678 18 990099 5	1 54322 999999999987654322 9910

[1] which means "进位" in Chinese