Best Carry Player 2

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	1024 megabytes

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 $(1 \leq T \leq 10^5)$ – the number of test cases.

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

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

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[1] which means "进位" in Chinese