Problem L

Beautiful numbers

Time limit: 1 second
Memory limit: 512 megabytes

For each positive integer x, let $S(x)$ denote the sum of digits of x in decimal representation. For example, $S(2025) = 2 + 0 + 2 + 5 = 9$.

A positive integer n is called "beautiful" if it satisfies both of the following conditions:

- There exist positive integers a, b such that $n = a + b$ and $S(a) = S(b)$.
- There exist positive integers c, d, e such that $n = c + d + e$ and $S(c) = S(d) = S(e)$.

You are asked to answer q queries. In each query, you are given two integers L and R ($1 \le L \le R \le 10^{18}$). For each query, determine how many beautiful numbers are contained in the interval $[L, R]$.

Input

The first line contains a single integer q ($1 \le q \le 10^5$) — the number of queries. Each of the next q lines contains two integers L and R ($1 \le L \le R \le 10^{18}$).

Output

For each query, output a single integer — the count of beautiful numbers in the interval $[L, R]$.

Sample Input	Sample Output
2 1 10 2024 2026	1 1

Explanation

In the first test case, the only beautiful number in $[1; 10]$ is 6, since $6 = 3 + 3 = 2 + 2 + 2$, because $S(3) = S(3) = 3$ and $S(2) = S(2) = S(2) = 2$. In the second test case, the only beautiful number in $[2024; 2026]$ is 2025, because $2025 = 2016 + 9 = 2013 + 6 + 6$ and $S(2016) = S(9) = 9$, while $S(2013) = S(6) = S(6) = 6$. No other numbers in these intervals satisfy both given conditions.