Problem 3490: Count Beautiful Numbers

Problem Information

Difficulty: Hard
Acceptance Rate: 22.17%
Paid Only: No
Tags: Dynamic Programming

Problem Description

You are given two positive integers, `l` and `r`. A positive integer is called **beautiful** if the product of its digits is divisible by the sum of its digits.

Return the count of **beautiful** numbers between `l` and `r`, inclusive.

Example 1:

Input: l = 10, r = 20

Output: 2

Explanation:

The beautiful numbers in the range are 10 and 20.

Example 2:

Input: l = 1, r = 15

Output: 10

Explanation:

The beautiful numbers in the range are 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

Constraints:

* `1 <= l <= r < 109`

Code Snippets

C++:

```
class Solution {
public:
int beautifulNumbers(int l, int r) {

}
};
```

Java:

```
class Solution {
public int beautifulNumbers(int l, int r) {

}
}
```

Python3:

```
class Solution:
def beautifulNumbers(self, l: int, r: int) -> int:
```