

ChatGPT - Leetcode 2520 Explanation

Give short notes for the below DSA problem. Leetcode 2520. Count the Digits That Divide a Number

Input: num = 121

Output: 2

Explanation: 121 is divisible by 1, but not 2. Since 1 occurs twice as a digit, we return 2.

Short Notes: LeetCode 2520 - Count the Digits That Divide a Number

Problem Statement:

Given an integer `num`, count how many digits of `num` divide `num` evenly.

Key Steps:

1. Extract Digits:

Convert `num` to a string or repeatedly extract its digits using modulus and division.

2. Check Divisibility:

For each digit `d`:

- Skip `d = 0` (to avoid division by zero).
- Check if `num % d == 0`. If true, increment the count.

3. Return Result:

Return the count of digits that divide `num` evenly.

Example Walkthrough:

- Input: `num = 121`
- Digits: `[1, 2, 1]`
- Divisibility Check:
 - `121 % 1 == 0` (occurs twice)

- $121 \% 2 \neq 0$ □
 - **Output:** 2 (two 1s divide 121).
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Complexity:

- **Time:** $O(d)$, where d is the number of digits in `num`.
- **Space:** $O(1)$ (or $O(d)$ if storing digits explicitly).

This problem focuses on basic math operations and is ideal for beginners to practice modulus and digit manipulation.