666. Path Sum IV Premium

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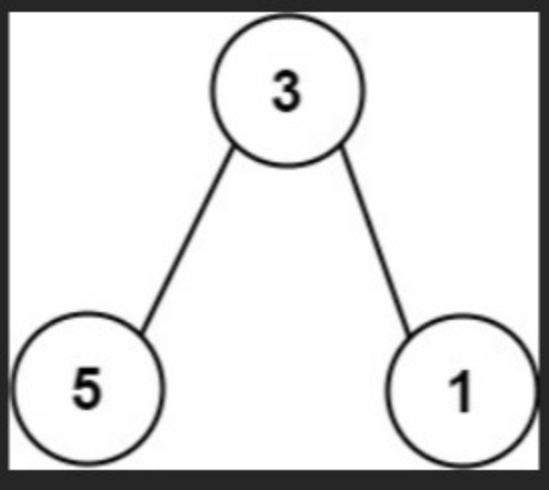
If the depth of a tree is smaller than `5`, then this tree can be represented by an array of three-digit integers. You are given an **ascending** array `nums` consisting of three-digit integers representing a binary tree with a depth smaller than `5`, where for each integer:

- The hundreds digit represents the depth `d` of this node, where `1 <= d <= 4`.
- The tens digit represents the position `p` of this node within its level, where `1 <= p <= 8`, corresponding to its position in a **full binary tree**.
- The units digit represents the value `v` of this node, where `0 <= v <= 9`.

Return the **sum** of **all paths** from the **root** towards the **leaves**.

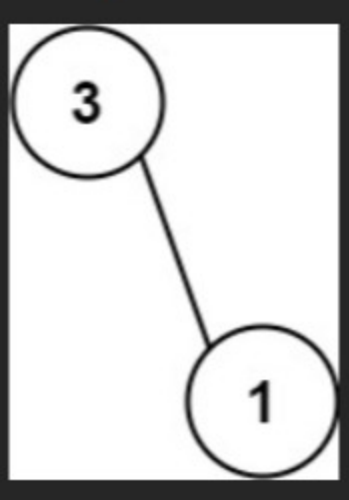
It is **guaranteed** that the given array represents a valid connected binary tree.

Example 1:



> **Input:** `nums = [113,215,221]`
>
> **Output:** 12
>
> **Explanation:**
>
> The tree that the list represents is shown.
> The path sum is (3 + 5) + (3 + 1) = 12.

Example 2:



> **Input:** `nums = [113,221]`
>
> **Output:** 4
>
> **Explanation:**
>
> The tree that the list represents is shown.
> The path sum is (3 + 1) = 4.

Constraints:

- `1 <= nums.length <= 15`
- `110 <= nums[i] <= 489`
- `nums` represents a valid binary tree with depth less than `5`.
- `nums` is sorted in ascending order.

Seen this question in a real interview before? 1/5

Yes No

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