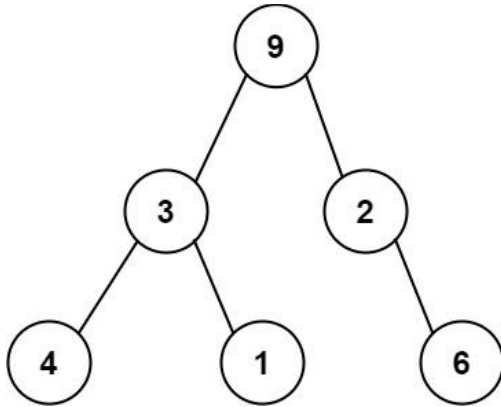


### **331. Verify Preorder Serialization of a Binary Tree**

One way to serialize a binary tree is to use preorder traversal. When we encounter a non-null node, we record the node's value. If it is a null node, we record using a sentinel value such as '#'.



For example, the above binary tree can be serialized to the string "9,3,4,#,1,#,2,6,#,#", where '#' represents a null node.

Given a string of comma-separated values preorder, return true if it is a correct preorder traversal serialization of a binary tree.

It is guaranteed that each comma-separated value in the string must be either an integer or a character '#' representing null pointer.

You may assume that the input format is always valid.

For example, it could never contain two consecutive commas, such as "1,,3".

Note: You are not allowed to reconstruct the tree.

### **Example 1:**

- **Input:** preorder = "9,3,4,#,#,1,#,#,2,#,6,#,#"
- **Output:** true

### **Example 2:**

- **Input:** preorder = "1,#"
- **Output:** false

### **Example 3:**

- **Input:** preorder = "9,#,#,1"
- **Output:** false

### **Constraints:**

- $1 \leq \text{preorder.length} \leq 10^4$
- preorder consist of integers in the range [0, 100] and '#' separated by commas ','.