# 1339. Maximum Product of Splitted Binary Tree

Description

Given the `root` of a binary tree, split the binary tree into two subtrees by removing one edge such that the product of the sums of the subtrees is maximized.

Return *the maximum product of the sums of the two subtrees*. Since the answer may be too large, return it **modulo** `10^9 + 7`.

Note that you need to maximize the answer before taking the mod and not after taking it.
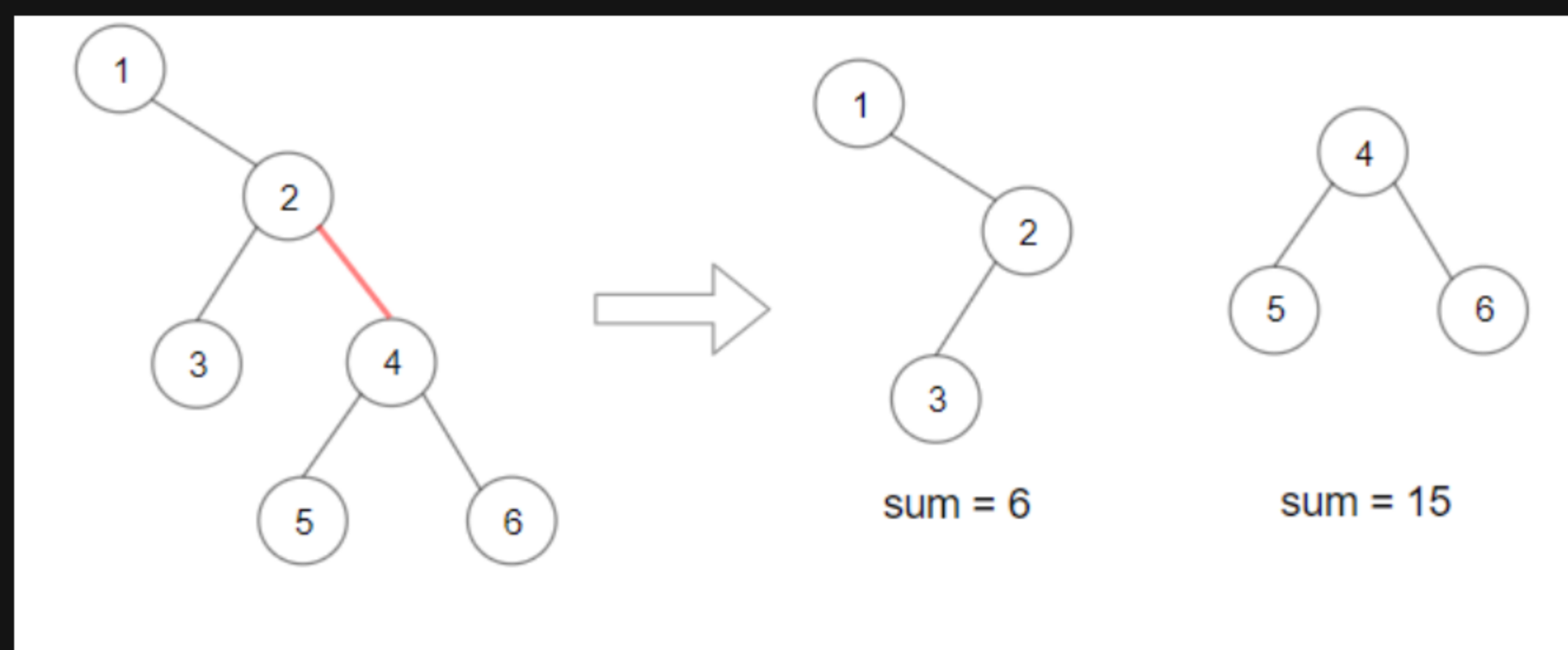
Example 1:

sum = 11   sum = 10
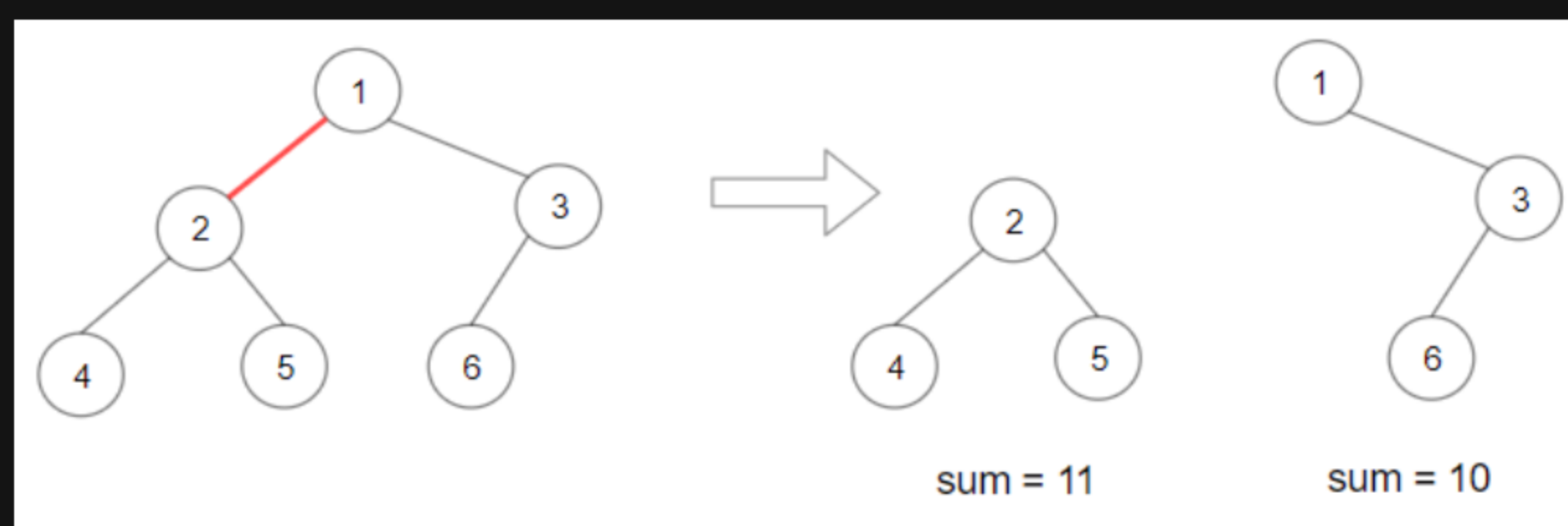
```
Input:  root = [1,2,3,4,5,6]
Output: 110
Explanation: Remove the red edge and get 2 binary trees with sum 11 and 10. Their product is 110 (11*10)
```

Example 2:

sum = 6   sum = 15

```
Input:  root = [1,null,2,3,4,null,null,5,6]
Output: 90
Explanation: Remove the red edge and get 2 binary trees with sum 15 and 6.Their product is 90 (15*6)
```

Constraints:

- The number of nodes in the tree is in the range `[2, 5 * 10^4]`.
- `1 <= Node.val <= 10^4`