2807. Insert Greatest Common Divisors in Linked List

Solved

Medium Topics

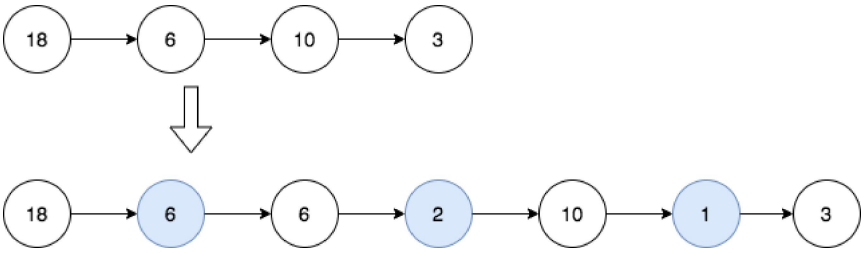
Given the head of a linked list `head`, in which each node contains an integer value.

Between every pair of adjacent nodes, insert a new node with a value equal to the **greatest common divisor** of them.

Return *the linked list after insertion.*

The **greatest common divisor** of two numbers is the largest positive integer that evenly divides both numbers.

Example 1:



> **Input:** head = [18,6,10,3]
> **Output:** [18,6,6,2,10,1,3]
> **Explanation:** The 1st diagram denotes the initial linked list and the 2nd diagram denotes the linked list after inserting the new nodes (nodes in blue are the inserted nodes).
> - We insert the greatest common divisor of 18 and 6 = 6 between the 1st and the 2nd nodes.
> - We insert the greatest common divisor of 6 and 10 = 2 between the 2nd and the 3rd nodes.
> - We insert the greatest common divisor of 10 and 3 = 1 between the 3rd and the 4th nodes.
> There are no more adjacent nodes, so we return the linked list.

Example 2:

> **Input:** head = [7]
> **Output:** [7]
> **Explanation:** The 1st diagram denotes the initial linked list and the 2nd diagram denotes the linked list after inserting the new nodes.
> There are no pairs of adjacent nodes, so we return the initial linked list.

Constraints:

- The number of nodes in the list is in the range `[1, 5000]`.
- `1 <= Node.val <= 1000`

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

Yes No

Accepted 288,533/315.5K | Acceptance Rate 91.5%

Topics

Similar Questions

Discussion (184)