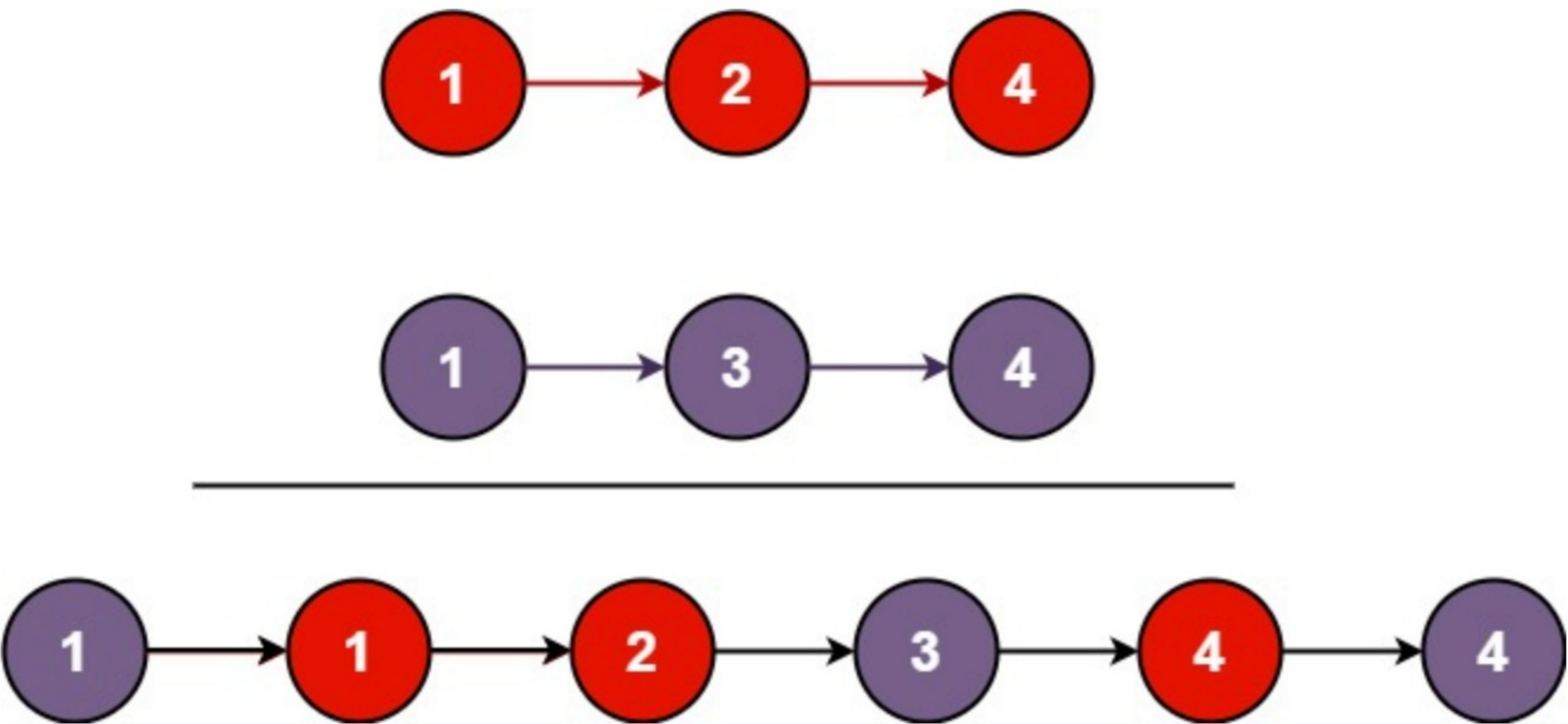


You are given the heads of two sorted linked lists `list1` and `list2`.

Merge the two lists in a one **sorted** list. The list should be made by splicing together the nodes of the first two lists.

Return *the head of the merged linked list*.

**Example 1:**



**Input:** `list1 = [1,2,4]`, `list2 = [1,3,4]`  
**Output:** `[1,1,2,3,4,4]`

**Example 2:**

**Input:** `list1 = []`, `list2 = []`  
**Output:** `[]`