Problem 6: Union and Intersection of two Linked List

In this problem, for union operation we create a union list, traverse both given lists and start adding nodes to union list and a set. If we encounter the same value again then we simply skip it. Similar procedure is used for intersection but the difference is if we encounter the same value again then we add it to intersect list.

Time Complexity:

Union (): O(n) - traversal through both list is O(n) and appending to the back of linked list in O (1).

Intersection (): O(n) - traversal through both list is O(n) and appending to the back of linked list in O(1).

Space Complexity:

O(n) – we create a new Linkedlist for union and intersection.