Remove Duplicates From Unsorted Linked List
CodeStudio

Write a C++ program to remove duplicates from a unsorted singly linked list.

Approach 1: Remove duplicates from a linked list using a brute force approach

- Traverse the linked list with two nested loops.

- The outer loop iterates through each node.

- The inner loop checks for duplicates with subsequent nodes and removes them as necessary.

Time Complexity: O(n^2), where n is the number of nodes in the linked list.

Space Complexity: O(1), as no additional data structures are used.

Approach 2: Remove duplicates from a linked list using a hash map (unordered_map)

- Traverse the linked list while using a hash map (unordered_map) to keep track of visited nodes.

- If a node's value is already present in the hash map, it indicates a duplicate. Remove the duplicate node.

- Maintain a pointer to the previous node to update the next pointers after removing duplicates.

Time Complexity: O(n), where n is the number of nodes in the linked list.

Space Complexity: O(n), as the hash map may store up to n nodes' values.