

CU-Assignments/assignment3 - x Print Linked List | Practice | Gees

geeksforgeeks.org/problems/print-linked-list-elements/0

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Problem Editorial Submissions Comments

Output Window

Compilation Results Custom Input Y.O.G.I. (AI Bot)

Problem Solved Successfully

Test Cases Passed  
1112 / 1112

Attempts : Correct / Total  
1 / 3

Accuracy : 33%

Points Scored  
1 / 1

Your Total Score: 1

Solve Next

Count Linked List Nodes Delete Alternate Nodes Insert in Middle of Linked List

C++ (g++ 5.4)

```
1 // Driver Code Ends
19 /*
20 struct Node {
21     int data;
22     struct Node* next;
23 }
24 Node(int x) {
25     data = x;
26     next = nullptr;
27 }
28 */
29 //
30 //
31 // Print elements of a linked list on console
32 // Head pointer input could be NULL as well for empty list
33 //
34
35 class Solution {
36 public:
37     // Function to display the elements of a linked list in same line
38     void printlist(Node* head) {
39         Node* list_element = head;
40         while(list_element != NULL)
41         {
42             cout << list_element->data << " ";
43             list_element = list_element->next;
44         }
45     }
46 };
47 // Driver Code Ends
```

Custom Input Compile & Run Submit

Type here to search

98

09:31 14-02-2025

CU-Assignments/assignment3 - x Remove Duplicates from Sorted List

leetcode.com/problems/remove-duplicates-from-sorted-list/submissions/1542468695/

Problem List Run Submit

Description Accepted x Editorial Solutions Submissions

All Submissions

Accepted 168 / 168 testcases passed  
Aman submitted at Feb 14, 2025 09:34

Runtime 0 ms Beats 100.00%  
Memory 16.28 MB Beats 35.36%

Analyze Complexity

100% 50% 0%

1ms 2ms 3ms 4ms

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
class Solution {
public:
    ListNode* deleteDuplicates(ListNode* head) {
        ListNode* current = head;
        // Traverse the list until the end
        while (current != nullptr && current->next != nullptr) {
            // If the current value is the same as the next, skip the next node
            if (current->val == current->next->val) {
                ListNode* duplicate = current->next;
                current->next = current->next->next;
                delete duplicate; // Free the memory of the duplicate node
            } else {
                // Otherwise, move to the next node
                current = current->next;
            }
        }
        // Return the head of the modified list
        return head;
    }
};
```

Saved

Ln 30, Col 21

Testcase Test Result

Accepted Runtime: 0 ms

Case 1 Case 2

Type here to search

98

09:35 14-02-2025

CU-Assignments/assignment3 - Reverse Linked List - LeetCode

leetcode.com/problems/reverse-linked-list/submissions/1542470750/

Problem List < > Run Submit

Description Accepted x Editorial Solutions Submissions

All Submissions

Accepted 28 / 28 testcases passed  
Aman submitted at Feb 14, 2025 09:37

Runtime 0 ms Beats 100.00%  
Memory 13.30 MB Beats 90.85%

Analyze Complexity

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
class Solution {
public:
    ListNode* reverseList(ListNode* head) {
        ListNode* prev = nullptr;
        ListNode* current = head;
        while (current != nullptr) {
            next = current->next; // Save next node
            current->next = prev; // Reverse the link
            prev = current; // Move prev to current
            current = next; // Move to next node
        }
        return prev; // New head of the reversed list
    }
};
```

Testcase Test Result

Accepted Runtime: 0 ms

Case 1 Case 2 Case 3

Input

head =

CU-Assignments/assignment3 - Delete the Middle Node of a Li -

leetcode.com/problems/delete-the-middle-node-of-a-linked-list/submissions/1542473840/

Problem List < > Run Submit

Description Accepted x Editorial Solutions Submissions

All Submissions

Accepted 70 / 70 testcases passed  
Aman submitted at Feb 14, 2025 09:40

Runtime 0 ms Beats 100.00%  
Memory 312.08 MB Beats 55.19%

Analyze Complexity

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
class Solution {
public:
    ListNode* deleteMiddle(ListNode* head) {
        if (head == nullptr || head->next == nullptr) {
            return nullptr;
        }
        // Initialize pointers
        ListNode* slow = head;
        ListNode* fast = head;
        ListNode* prev = nullptr;
        // Move slow by 1 step and fast by 2 steps
        while (fast != nullptr && fast->next != nullptr) {
            prev = slow;
            slow = slow->next;
            fast = fast->next->next;
        }
        // 'slow' is now at the middle node
        // Skip the middle node
        prev->next = slow->next;
        // Free the memory of the middle node (optional)
        delete slow;
        return head;
    }
};
```

Testcase Test Result

Accepted Runtime: 0 ms

CU-Assignments/assignment3 - Merge Two Sorted Lists - LeetC

leetcode.com/problems/merge-two-sorted-lists/submissions/1542476164/

Problem List < > Run Submit

Description Accepted X Editorial Solutions Submissions

All Submissions

Accepted 208 / 208 testcases passed  
Aman submitted at Feb 14, 2025 09:43

Runtime 0 ms Beats 100.00%  
Memory 19.45 MB Beats 62.56%

Analyze Complexity

100% 50% 0% 1ms 2ms 3ms 4ms

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
```

```
class Solution {
public:
    ListNode* mergeTwoLists(ListNode* list1, ListNode* list2) {
        ListNode* dummy = new ListNode(-1);
        ListNode* tail = dummy;

        // Merge lists
        while (list1 != nullptr && list2 != nullptr) {
            if (list1->val <= list2->val) {
                tail->next = list1;
                list1 = list1->next;
            } else {
                tail->next = list2;
                list2 = list2->next;
            }
            tail = tail->next;
        }

        // Attach the remaining nodes
        tail->next = (list1 != nullptr) ? list1 : list2;

        // Return the merged list starting from dummy->next
        return dummy->next;
    }
};
```

Saved Ln 33, Col 28

Testcase Test Result

Accepted Runtime: 0 ms

Case 1 Case 2 Case 3

CU-Assignments/assignment3 - Remove Duplicates from Sorted List II - LeetC

leetcode.com/problems/remove-duplicates-from-sorted-list-ii/submissions/1542478098/

Problem List < > Run Submit

Description Accepted X Editorial Solutions Submissions

All Submissions

Accepted 166 / 166 testcases passed  
Aman submitted at Feb 14, 2025 09:43

Runtime 0 ms Beats 100.00%  
Memory 15.64 MB Beats 73.02%

Analyze Complexity

100% 50% 0% 1ms 2ms 3ms 4ms

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 * };
 */
```

```
class Solution {
public:
    ListNode* deleteDuplicates(ListNode* head) {
        ListNode* dummy = new ListNode(0, head);
        ListNode* prev = dummy;

        // Traverse the list
        while (head) {
            // Check for duplicates
            if (head->next && head->val == head->next->val) {
                // Skip nodes with the same value
                while (head->next && head->val == head->next->val) {
                    head = head->next;
                }
                // Link prev to the next non-duplicate node
                prev->next = head->next;
            } else {
                // No duplicates, move prev to current node
                prev = prev->next;
            }
            // Move head forward
            head = head->next;
        }

        // Return the head of the modified list
        return dummy->next;
    }
};
```

Saved Ln 36, Col 28

Testcase Test Result

Accepted Runtime: 0 ms

CU-Assignments/assignment3 - x Linked List Cycle - LeetCode x +

leetcode.com/problems/linked-list-cycle/submissions/1542480674/

Problem List < > Run Submit

Description Accepted x Editorial Solutions Submissions

All Submissions

Accepted 29 / 29 testcases passed  
Aman submitted at Feb 14, 2025 09:48

Runtime 12 ms Beats 40.45%  
Memory 11.68 MB Beats 96.53%

Runtime

Memory

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode(int x) : val(x), next(NULL) {}
 * };
 */
```

```
class Solution {
public:
    bool hasCycle(ListNode *head) {
        // Initialize slow and fast pointers
        ListNode *slow = head;
        ListNode *fast = head;

        // Traverse the list
        while (fast && fast->next) {
            slow = slow->next; // Move slow by one step
            fast = fast->next->next; // Move fast by two steps

            // Check if slow and fast meet
            if (slow == fast) {
                return true;
            }
        }

        // If no cycle is found
        return false;
    }
};
```

Testcase Test Result

Accepted Runtime: 2 ms

Case 1 Case 2 Case 3

CU-Assignments/assignment3 - x Reverse Linked List II - LeetCode x +

leetcode.com/problems/reverse-linked-list-ii/submissions/1542483340/

Problem List < > Run Submit

Description Accepted x Editorial Solutions Submissions

All Submissions

Accepted 44 / 44 testcases passed  
Aman submitted at Feb 14, 2025 09:51

Runtime 0 ms Beats 100.00%  
Memory 11.18 MB Beats 73.55%

Runtime

Memory

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 * };
 */
```

```
if (left == right) return head;

// Dummy node to handle edge cases
ListNode* dummy = new ListNode(0);
dummy->next = head;
ListNode* prev = dummy;

// Move prev to the node before the 'left' position
for (int i = 1; i < left; ++i) {
    prev = prev->next;
}

// Start reversing the sublist
ListNode* curr = prev->next;
ListNode* next = nullptr;

for (int i = 0; i < right - left; ++i) {
    next = curr->next;
    curr->next = next->next;
    next->next = prev->next;
    prev->next = next;
}

// Return the head of the modified list
return dummy->next;
};
```

Testcase Test Result

Accepted Runtime: 0 ms

CU-Assignments/assignment3 - Rotate List - LeetCode

leetcode.com/problems/rotate-list/submissions/1542486207/

Problem List Accepted x Editorial Solutions Submissions

All Submissions

Accepted 232 / 232 testcases passed  
Aman submitted at Feb 14, 2025 09:54

Runtime 0 ms Beats 100.00%  
Memory 16.42 MB Beats 31.82%

Analyze Complexity

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
```

Accepted Runtime: 0 ms

CU-Assignments/assignment3 - Sort List - LeetCode

leetcode.com/problems/sort-list/submissions/1542489121/

Problem List Accepted x Editorial Solutions Submissions

All Submissions

Accepted 30 / 30 testcases passed  
Aman submitted at Feb 14, 2025 09:57

Runtime 9 ms Beats 89.81%  
Memory 57.11 MB Beats 81.09%

Analyze Complexity

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode() : val(0), next(nullptr) {}
 *     ListNode(int x) : val(x), next(nullptr) {}
 *     ListNode(int x, ListNode *next) : val(x), next(next) {}
 * };
 */
```

Accepted Runtime: 0 ms

CU-Assignments/assignment3 - Linked List Cycle II - LeetCode

leetcode.com/problems/linked-list-cycle-ii/submissions/1542491280/

Problem List Run Submit

Description Accepted Editorial Solutions Submissions

All Submissions

Accepted 18 / 18 testcases passed  
Aman submitted at Feb 14, 2025 10:00

Editorial Solution

Runtime 7 ms Beats 68.10%  
Memory 11.26 MB Beats 83.15%

Analyze Complexity

Code C++

```
/**
 * Definition for singly-linked list.
 * struct ListNode {
 *     int val;
 *     ListNode *next;
 *     ListNode(int x) : val(x), next(NULL) {}
 * }
```

```
13 if (!head || !head->next) return nullptr;
14
15 ListNode *slow = head;
16 ListNode *fast = head;
17
18 // Step 1: Detect Cycle using Floyd's Cycle Detection Algorithm
19 while (fast && fast->next) {
20     slow = slow->next; // Move slow by one step
21     fast = fast->next->next; // Move fast by two steps
22 }
23
24 // If slow and fast meet, cycle is detected
25 if (slow == fast) {
26     // Step 2: Find the start of the cycle
27     ListNode *start = head;
28
29     while (start != slow) {
30         start = start->next;
31         slow = slow->next;
32     }
33
34     // The meeting point is the start of the cycle
35     return start;
36 }
37 }
```

Saved

Testcase Test Result

Accepted Runtime: 0 ms

Type here to search

1000 14-02-2025