

Linked Lists in Java

Assignment Questions

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Q1. Given a linked list and a key 'X' in, the task is to check if X is present in the linked list or not.

Examples:

Input: 14→21→11→30→10, X = 14

Output: Yes

Explanation: 14 is present in the linked list.

Input: 6→21→17→30→10→8, X = 13

Output: No

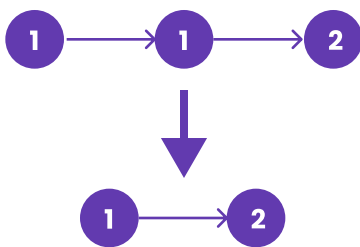
Q2. Insert a node at the given position in a linked list. We are given a pointer to a node, and the new node is inserted after the given node.

Input : LL = 1 → 2 → 4 → 5 → 6 pointer = 2 value = 3.

Output : 1 → 2 → 3 → 4 → 5 → 6

Q3. Given the head of a sorted linked list, delete all duplicates such that each element appears only once. Return the linked list sorted as well.

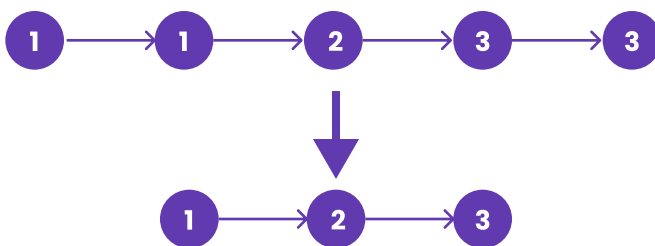
Example 1:



Input: head = [1,1,2]

Output: [1,2]

Example 2:



Input: head = [1,1,2,3,3]

Output: [1,2,3]

Q4. Given the head of a singly linked list, return true if it is a palindrome or false otherwise.

Example 1:

Input: head = [1,2,2,1]

Output: true

Example 2:

Input: head = [1,2]

Output: false

Assignment Questions

Q5. Given two numbers represented by two lists, write a function that returns the sum list. The sum list is a list representation of the addition of two input numbers.

Example:

Input:

List1: 5→6→3 // represents number 563

List2: 8→4→2 // represents number 842

Output:

Resultant list: 1→4→0→5 // represents number 1405

Explanation: $563 + 842 = 1405$

Input:

List1: 7→5→9→4→6 // represents number 75946

List2: 8→4 // represents number 84

Output:

Resultant list: 7→6→0→3→0 // represents number 76030

Explanation: $75946 + 84 = 76030$