

Question 1: Given a pointer to the head node of a linked list, the task is to reverse the linked list. We need to reverse the list by changing the links between nodes.

Examples:

Input: Head of following linked list

1->2->3->4->NULL

Output: Linked list should be changed to,

4->3->2->1->NULL

Input: Head of following linked list

1->2->3->4->5->NULL

Output: Linked list should be changed to,

5->4->3->2->1->NULL

Input: NULL

Output: NULL

Question 2: Given a linked list of size N. The task is to reverse every k node (where k is an input to the function) in the linked list.

Example 1:

Input:

LinkedList: 1->2->2->4->5->6->7->8

K = 4

Output: 4 2 2 1 8 7 6 5

Explanation:

The first 4 elements 1,2,2,4 are reversed first and then the next 4 elements 5,6,7,8. Hence, the resultant linked list is 4->2->2->1->8->7->6->5.

Question 3: Given a linked list of N nodes. The task is to check if the linked list has a loop. Linked list can contain a self loop.

Example 1:

Input:

N = 3

value[] = {1,3,4}

x = 2

Output: True

Explanation: In above test case N = 3.

The linked list with nodes N = 3 is given. Then value of x=2 is given which means last node is connected with xth node of linked list. Therefore, there exists a loop.

Question 4: You are given a linked list of N nodes. Remove the loop from the linked list, if present.

Note: X is the position of the node to which the last node is connected to. If it is 0, then there is no loop.

Example 1:

Input:

N = 3

value[] = {1,3,4}

X = 2

Output: 1

Explanation: The link list looks like

1 -> 3 -> 4



A loop is present. If you remove it successfully, the answer will be 1.

Question 5: Given a singly linked list consisting of N nodes. The task is to remove duplicates (nodes with duplicate values) from the given list (if exists).

Note: Try not to use extra space. Expected time complexity is O(N). The nodes are arranged in a sorted way.

Example 1:

Input:

LinkedList: 2->2->4->5

Output: 2 4 5

Explanation: In the given linked list

2 -> 2 -> 4 -> 5, only 2 occurs more than 1 time.

Question 6: Write a function that moves the last element to the front in a given Singly Linked List. For example, if the given Linked List is 1->2->3->4->5, then the function should change the list to 5->1->2->3->4.