

Remove Duplicates from Sorted List II

Given a sorted linked list, delete all nodes that have duplicate numbers, leaving only *distinct* numbers from the original list.

For example,

Given `1->2->3->3->4->4->5`, return `1->2->5`.

Given `1->1->1->2->3`, return `2->3`.

Solution 1

```
public ListNode deleteDuplicates(ListNode head) {  
    if(head==null) return null;  
    ListNode FakeHead=new ListNode(0);  
    FakeHead.next=head;  
    ListNode pre=FakeHead;  
    ListNode cur=head;  
    while(cur!=null){  
        while(cur.next!=null&&cur.val==cur.next.val){  
            cur=cur.next;  
        }  
        if(pre.next==cur){  
            pre=pre.next;  
        }  
        else{  
            pre.next=cur.next;  
        }  
        cur=cur.next;  
    }  
    return FakeHead.next;  
}
```

written by [snowfish](#) original link [here](#)

Solution 2

```
public ListNode deleteDuplicates(ListNode head) {  
    if (head == null) return null;  
  
    if (head.next != null && head.val == head.next.val) {  
        while (head.next != null && head.val == head.next.val) {  
            head = head.next;  
        }  
        return deleteDuplicates(head.next);  
    } else {  
        head.next = deleteDuplicates(head.next);  
    }  
    return head;  
}
```

if current node is not unique, return deleteDuplicates with head.next. If current node is unique, link it to the result of next list made by recursive call. Any improvement?

written by [totalheap](#) original link [here](#)

Solution 3

```
class Solution {
public:
    ListNode *deleteDuplicates(ListNode *head) {
        ListNode **runner = &head;

        if(!head || !head->next) return head;

        while(*runner)
        {
            if((*runner)->next && (*runner)->next->val == (*runner)->val)
            {
                ListNode *temp = *runner;
                while(temp && (*runner)->val == temp->val)
                    temp = temp->next;

                *runner = temp;
            }
            else
                runner = &((*runner)->next);
        }

        return head;
    }
};
```

written by [tommy1122337](#) original link [here](#)

From [Leetcode](#).