Linked List

现在是课程答疑时间



扫描二维码关注微信/微博 获取最新面试题及权威解答

微信: ninechapter

微博: http://www.weibo.com/ninechapter

官网: www.jiuzhang.com

Outline



- Introduce Dummy Node
- Basic Linked List Skills
- Two Pointers in Linked List (Fast-slow pointers)

Basic Knowledge Test



What's the output of the following code?

```
1 - void print() {
2 -
        for (ListNode node = head; node != null; node = node.next) {
            System.out.print(node.val);
            System.out.print("->");
 6
        System.out.println("null");
 7 8
    void main() {
10
        ListNode node1 = new ListNode(1);
11
        ListNode node2 = new ListNode(2);
12
        ListNode node3 = new ListNode(3);
        ListNode head = node1;
13
14
15
        node1.next = node2;
16
        node2.next = node3;
17
18
        print(head);
19
20
        node1 = node2;
21
22
        print(head);
23
```

Remove Duplicates from Sorted List II



Remove Duplicates from Sorted List II

http://www.lintcode.com/problem/remove-duplicates-from-sorted-list-ii/

http://www.jiuzhang.com/solutions/remove-duplicates-from-sorted-list-ii/

Reverse Linked List II



Reverse Linked List II

http://www.lintcode.com/problem/reverse-linked-list-ii/

http://www.jiuzhang.com/solutions/reverse-linked-list-ii/

Dummy Node



Scenario: When the head is not determinated

Related Questions:

- Merge Two Sorted Lists
- Partition List
- ...



Partition List

http://www.lintcode.com/problem/partition-list/

http://www.jiuzhang.com/solutions/partition-list/

Basic Linked List Skills



- 1. Insert a Node in Sorted List
- 2. Remove a Node from Linked List
- 3. Reverse a Linked List
- 4. Merge Two Linked Lists
- 5. Middle of a Linked List



Sort List

http://www.lintcode.com/problem/sort-list/

http://www.jiuzhang.com/solutions/sort-list/

Merge Sort vs Quick Sort



Reorder List

http://www.lintcode.com/problem/reorder-list/

http://www.jiuzhang.com/solutions/reorder-list/



5 minutes break

Fast Slow Pointers



- 1. Middle of Linked List
- 2. Remove Nth Node From End of List
- 3. Linked List Cycle I, II
- 4. Rotate List

• • •

Linked List Cycle



Linked List Cycle

http://www.lintcode.com/problem/linked-list-cycle/

http://www.jiuzhang.com/solutions/linked-list-cycle/



Rotate List

http://www.lintcode.com/problem/rotate-list/

http://www.jiuzhang.com/solutions/rotate-list/

Merge k Sorted Lists



Merge k Sorted Lists

http://www.lintcode.com/problem/merge-k-sorted-lists/

http://www.jiuzhang.com/solutions/merge-k-sorted-lists/

PriorityQueue/Heap vs Divide Conquer

Copy List with Random Pointer



Copy List with Random Pointer

http://www.lintcode.com/problem/copy-list-with-random-pointer/

http://www.jiuzhang.com/solutions/copy-list-with-random-pointer/

Convert Sorted List to Balanced BST



Convert Sorted List to Balanced BST

http://www.lintcode.com/problem/convert-sorted-list-to-balanced-bst/

http://www.jiuzhang.com/solutions/convert-sorted-list-to-balanced-bst/

Related Questions



http://www.lintcode.com/problem/reverse-nodes-in-k-group/

http://www.lintcode.com/problem/delete-node-in-the-middle-of-singly-

<u>linked-list/</u>

http://www.lintcode.com/problem/convert-binary-search-tree-to-doubly-

<u>linked-list/</u>