

lecture 15 exercises

11/16/2022

5. list → 1 → 2

list.next = new ListNode(3);

list → 1 → 3

6. list → 1 → 2

list.next = new ListNode(3, list.next);

list → 1 → 3 → 2

7. list → 1 → 2 → 3

list = new ListNode(4, list.next.next);

list → 4 → 3

8. list → 1 → 2 → 3

list.next.next = null;

list → 1 → 2

9. list → 1 → 2

list.next.next = new ListNode(3, null);

list → 1 → 2 → 3

10. list → 1 → 2

list = new ListNode(3, list);

list → 3 → 1 → 2

11. list → 1 → 2

temp → 3 → 4

temp.next.next = list.next;

list.next = temp;

list → 1 → 3 → 4 → 2

12. list → 1 → 2 → 3

ListNode list2 = list; // list2 → 1

list = list.next; // list → 2

list2.next = list.next.next; // list2 → 1 → 3

list → 2; list2 → 1 → 3

13. list → 5 → 4 → 3

ListNode temp = list; // temp → 5

list = list.next; // list → 4

temp.next = list.next; // 5 → 3

list.next = temp; // 4 → 5

⇒ list → 4 → 5 → 3

14. list → 5 → 4 → 3

ListNode temp = list.next.next; // temp → 3

temp.next = list.next; // 3 → 4

temp.next.next = list; // 4 → 5

list.next = null; // list → 5

list = temp; // list → 3

list → 3 → 4 → 5

15. list → 1 → 2 → 3

temp → 4 → 5 → 6

list.next.next.next = temp; // 3 → 4

temp.next.next = list.next.next; // 5 → 3

list.next.next = null; // 2 → 1

ListNode temp2 = temp.next; // temp → 5

temp.next = list.next; // 4 → 2

list = temp2; // list → 5

list → 5 → 3 → 4 → 2

16. list \rightarrow [1]

list2 \rightarrow [2] \rightarrow [3] \rightarrow [4]

ListNode temp = list2.next.next; // temp \rightarrow 4

list2.next.next = null; // 3 \rightarrow /

temp.next = list; // 4 \rightarrow 1

list.next = list2; // 1 \rightarrow 2

list = temp; // list \rightarrow 4

list2 = list2.next; // list2 \rightarrow 3

list.next.next.next = null; // 2 \rightarrow /

list \rightarrow [4] \rightarrow [1] \rightarrow [2]

list2 \rightarrow [3]

17. list \rightarrow [1] \rightarrow [2] \rightarrow [3] \rightarrow [4]

ListNode list2 = list.next.next; // list2 \rightarrow 3

list.next.next.next.next = list.next; // 4 \rightarrow 2

ListNode temp = list; temp \rightarrow 1

list = list.next.next.next; // list \rightarrow 4

list.next.next = null; // 2 \rightarrow /

temp.next = null // 1 \rightarrow /

list2.next = temp; // 3 \rightarrow 1

list \rightarrow [4] \rightarrow [2]

list2 \rightarrow [3] \rightarrow [1]

22. list \rightarrow [7] \rightarrow ... \rightarrow [16] \Rightarrow list \rightarrow [42] \rightarrow ... \rightarrow [42]

ListNode current = list;

while (current != null) {

current.data = 42;

current = current.next;

}

23. list \rightarrow [7] \rightarrow ... \rightarrow [3] \Rightarrow list \rightarrow [7] \rightarrow ... \rightarrow [42]

ListNode current = list;

while (current != null)

current = current.next;

current.data = 42;

24. list \rightarrow [7] \rightarrow ... \rightarrow [3] \Rightarrow list \rightarrow [7] \rightarrow ... \rightarrow [3] \rightarrow [42]

ListNode current = list;

while (current != null)

current = current.next;

current.next = new ListNode(42);