

## Reverse a singly linked list.

Example:

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

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

## Reverse a linked list from position m to n. Do it in one-pass.

Note:  $1 \leq m \leq n \leq \text{length of list}$ .

Example:

Input: 1->2->3->4->5->NULL, m = 2, n = 4

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

Implement and test your code in the SinglyLinkedList.java as flowing:

```
public class SinglyLinkedList {
    // reference that points to the list head
    public ListNode head;
    // nested class for singly-list node
    private static class ListNode {
        int val;
        ListNode next;
        ListNode(int x) {val = x;}
        ListNode(int x, ListNode nextIn) {
            this.val = x;
            this.next = nextIn;
        }
    }
    public SinglyLinkedList() {head = null;}

    // add node to the end of list
    private void add(int val) {
        ListNode e = new ListNode(val, head);
        head = e;
    }
    public String toString() {
        String mylist = "";
        ListNode e = head;
        while(e != null) {
            mylist = mylist + e.val + " ";
            e = e.next;
        }
        return mylist;
    }

    private void reverseList() {
        // place your code here
    }
}
```

```

    }

    private void reverseBetween(int m, int n) {
        // place your code here
    }

    public static void main(String args[]) {
        SinglyLinkedList list1 = new SinglyLinkedList();
        for(int i = 10; i > 0; i--) {
            list1.add(i);
        }
        System.out.println(list1);
        list1.reverseList();
        System.out.println(list1);
        list1.reverseList();
        System.out.println(list1);
        list1.reverseBetween(3,7);
        System.out.println(list1);
    }
}

```

The expected output of the code is as follows:

```

1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1
1 2 3 4 5 6 7 8 9 10
1 2 7 6 5 4 3 8 9 10

```