9.1

a) Check " 9la.cpp " for code.

Since there are no iterations all operations are in $O(1)$

b) Check 9lb.cpp.

9.2

a)

```
Node reverselist (Node head){
    if (head == NULL || head.next == NULL)
        return head.

    Node newhead = reverses List (head.next).
    head.next.next = head
    head.next = NULL.

    return newhead
```

3.

Since a recursive function is used, a stack of n height is formed, making the space-complexity $O(n)$.

This is in-situ because no auxiliary data structure is used.

b). In folder, Q2b. The time complexity is $O(n)$ because we are just doing a tree traversal. traversal.

c) In folder Q2c.