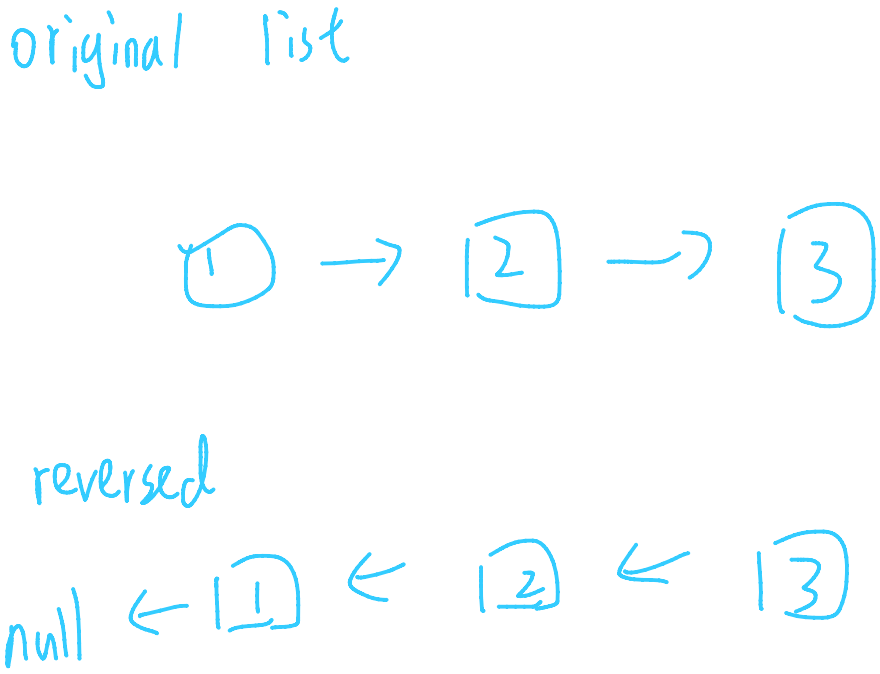
# Exercise 30 **

Saturday, September 24, 2022 5:09 PM

**1.3.30** Write a function that takes the first `Node` in a linked list as argument and (destructively) reverses the list, returning the first `Node` in the result.



```java
private Node reverse(Node node) // exercise 30
{
    Node First = node;
    Node reverse = null;
    while (First != null )
    {
        Node second = First.next;
        First.next = reverse;
        reverse = First;
        First = second;
    }

    return reverse;


}

public void test()
{
    first = reverse(first);
    print();


}
```

```java
// test reverse() exercise 30
var list7 = new exer_19<Integer>();
list7.add(10);
list7.add(11);
list7.add(12);
list7.test();
```

```
~/IdeaProjects/Algorithms_4th_edition/src> java ch_1_3/exer_19
Original list:
h o u s e
h o u
h o u r s
g r a t
Correct!
b o
r e
3
12 11 10
```