

## Linked List class invariant

1. The list has three instance variables - `self.head`, `self.size`, and `self.last`
2. `self.size` is the number of nodes in the list.
3. If `self.size = 0`, then the list is empty, and `self.head` is `None` and `self.last` is `None`. If the list is non-empty, `self.head` is a reference to the first or head `ListNode` object in the list, and `self.last` is a reference to the last `ListNode` object in the list. If `self.size = 1`, the `self.head` and `self.last` refer to the same `ListNode` object.
4. The last `ListNode` object in the list, at position `self.size - 1`, has its link set to `None`. For every other `ListNode` in the list, the link refers to the next `ListNode` in the list.