

| Method | ArrayList Runtime | LinkedList Runtime | Explanation |
|--------------------------|-------------------|--------------------|---|
| boolean add(T element) | $O(n)$ | $O(n)$ | Both utilize if/else statements and their complexities are dependent on the length of inputs. |
| boolean pairSwap() | $O(n)$ | $O(n)$ | On Array list it's not dependent on the If statements but rather the for loops, which are dependent on size n. Linked list relies on a single while loop. |
| merge(List<T> otherList) | $O(n)$ | $O(n)$ | Merged List has a complexity of N because it has different variables in oops but they never intersect or get nested in Array list, In Linked List the same applies. |
| reverse() method | $O(n)$ | $O(n)$ | Reverse relies on a an $O(n)$ for both |