Linked List
1. What is a singly linked list? Draw a picture of it.

2. What would a doubly linked list and circular linked list look like?

Compare and contrast: Singly Linked List vs. Array
3. How are memory assigned for both data structures? Contiguous vs. non-contiguous?

4. In order to store the same amount of elements (e.g., 100 integers), which data structure would consume more memory and why?

5. Advantage(s) of linked list over array:

6. Drawbacks of linked list:
**Complexity Analysis**

7. Suppose an array, \( arr \), and a singly linked list, \( lst \), both have \( x \) elements,
   - If we want to access the element at index \( y \) (\( y < x \)), what is the time complexity for both using big O, and why?

   - If we want to insert an element in the middle, what is the time complexity for both using big O, and why?

   - If we want to delete an element in the middle, what is the time complexity for both using big O, and why?

Open floor: Assignment 5 help / recursion / merge sort