**Understanding Linked Lists**

**Singly Linked List**:

**Description**: A singly linked list consists of nodes where each node contains data and a reference (or link) to the next node in the sequence.

**Advantages**: Simple to implement, efficient for insertion and deletion at the beginning of the list.

**Doubly Linked List**:

**Description**: A doubly linked list contains nodes with data and two references: one to the next node and one to the previous node.

**Analysis**

**Time Complexity**:

* **Add**: O(1) - Adding a task at the beginning of the list is a constant-time operation.
* **Search**: O(n) - In the worst case, we may need to search through all tasks.
* **Traverse**: O(n) - We need to visit each task once.
* **Delete**: O(n) - In the worst case, we may need to search through all tasks to find the one to delete.

**Advantages of Linked Lists over Arrays**:

* **Dynamic Size**: Linked lists can grow and shrink dynamically, unlike arrays which have a fixed size.