1. **Linked Lists:**
   * Linked lists are linear data structures where elements (nodes) are connected via pointers.
   * There are two common types of linked lists:
     + **Singly Linked List**: Each node has a data value and a reference to the next node.
     + **Doubly Linked List**: Each node has references to both the next and previous nodes.
   * For our task management system, we’ll use a singly linked list.
2. **Time complexity for each operation**:
   * Adding a task: O(n) (since we traverse the list to find the last node).
   * Searching for a task: O(n) (linear search through the list).
   * Traversing the list: O(n) (visiting each node once).
   * Deleting a task: O(n) (search + deletion).
3. **Advantages of linked lists over arrays**:
   * Dynamic size: Linked lists can grow or shrink dynamically, unlike fixed-size arrays.
   * Efficient insertions and deletions: Adding/removing elements is faster in linked lists.
   * No wasted memory: Linked lists allocate memory only for the actual data, not a fixed-size block.
   * Better cache locality: Linked lists can be more cache-friendly due to scattered memory allocation.