**Exercise 5: Task Management System**

**1. Understand Linked Lists**

* **Singly Linked List**: Each node points to the next.
* **Doubly Linked List**: Nodes point to both next and previous.

✅ Linked lists allow dynamic memory allocation and efficient insertions/deletions.

**2. Setup**

Define a Task class with:

* taskId
* taskName
* status

**3. Implementation**

👉 Visit the code in the repository to see:

* Singly linked list implementation to add, delete, search, and traverse tasks.

**4. Analysis**

| **Operation** | **Time Complexity** |
| --- | --- |
| Add | O(1) (at head) |
| Search | O(n) |
| Delete | O(n) |
| Traverse | O(n) |

\*Linked lists are great for dynamic data where frequent updates are needed.