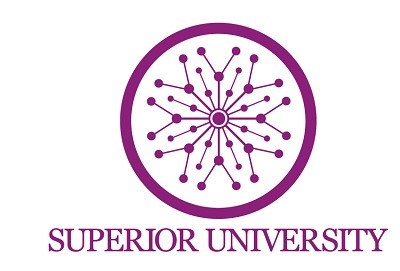
**Lab Tasks**



Submitted to

:

Sir Rasikh Ali

rR

Submitted by

:

Arooj Fatima

Roll No

:

SU92-BSSEM-S24-091

Subject:

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Class:

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# **Lab # 08**

**- Merge two Linked Lists**

This code shows 2 Singly LinkedList and 2 Doubly LinkedList and merges both singly and doubly linked lists and display them. It begins by defining a singly linked list using the Node class, where each node stores an integer value and a pointer to the next node.

The SinglyLinkedList class provides methods to insert nodes at the end, display the list, and merge two linked lists by inserting elements alternately while ensuring the remaining elements are appended correctly.

Similarly, a doubly linked list is implemented using the DNode class, which extends the singly linked list structure by adding a prev pointer for backward traversal.

The DoublyLinkedList class includes functions to insert nodes at the end, display the list, and merge two doubly linked lists while preserving their order and bidirectional linking.

In the main function, two singly linked lists are created, populated with values, and merged before displaying the results. The same process is repeated for two doubly linked lists, ensuring both forward and backward traversal integrity is maintained. The output confirms that both linked list types are successfully merged while preserving their order and structural properties.

This program effectively demonstrates how to manage, merge, and display singly and doubly linked lists while handling dynamic memory allocation and pointer manipulation.

