**Explanation of the Code**

1️-: Insert at Beginning

Creates a new node and sets it as the head.

If the list isn’t empty, updates the old head’s prev pointer.

2️-: insert at End:

Traverses to the last node and inserts a new node after it.

3️-:Insert at Nth Position:

Moves to the (N-1)th node and inserts the new node after it.

Adjusts the prev and next pointers accordingly.

4️-:Insert at Center:

Uses slow & fast pointer technique to find the middle node.

Inserts the new node after the middle node.

5️-:Display in Forward Order:

Starts from the head and moves forward while printing nodes.

6️-:Display in Reverse Order:

Moves to the last node first.

Then traverses backward while printing nodes.

