

## Lab Question 5: Merging of Lists

Aim:

To write a C program to merge two linked lists.

Algorithm:

1. Start the program.
2. Define linked list node structure.
3. Create two linked lists.
4. Traverse first list to the end.
5. Attach second list to the end of first.
6. Print merged list.
7. Stop.

Code (simple example):

```
#include <stdio.h>
#include <stdlib.h>

struct Node {
    int data;
    struct Node* next;
};

struct Node* createNode(int data) {
    struct Node* newNode = malloc(sizeof(struct Node));
    newNode->data = data; newNode->next = NULL;
    return newNode;
}

void printList(struct Node* head) {
    while (head) {
        printf("%d ", head->data);
        head = head->next;
    }
}

int main() {
    struct Node* list1 = createNode(1);
```

```
list1->next = createNode(2);
struct Node* list2 = createNode(3);
list2->next = createNode(4);
struct Node* temp = list1;
while (temp->next) temp = temp->next;
temp->next = list2;
printf("Merged List: ");
printList(list1);
return 0;
}
```

Test Cases:

- List1: 1->2, List2: 3->4 → Merged: 1->2->3->4

Result:

The program merges two lists successfully.