

# MERGE SORTED LINKED LISTS

★ In this problem, we are given two linked lists which are individually sorted and our job is to return a linked list which merges those 2 in a sorted manner.

Bruteforce solution is to create an array for storing all elements, sorting it and creating a new linked list.

Optimal Solution is very similar to merging two sorted arrays. We use 2 pointers and a dummy Node for traversing and creating answer list.

C++ :

```
Node* merge2SortedLL(Node* l1, Node* l2) {  
    Node* t1 = l1 ;  
    Node* t2 = l2 ;  
    Node* dM = new Node(-1) ;  
    Node* temp = dM ;  
    while (t1 != nullptr && t2 != nullptr) {  
        if (t1->data < t2->data) {  
            temp->next = t1 ;  
            t1 = t1->next ;  
            temp = temp->next ;  
        } else {  
            temp->next = t2 ;  
            t2 = t2->next ;  
            temp = temp->next ;  
        }  
    }  
    temp->next = t1 ;  
    temp->next = t2 ;  
    temp = temp->next ;  
}
```

```
    }  
}  
if (t1 == nullptr) {  
    temp → next = t2 ;  
}  
if (t2 == nullptr) {  
    temp → next = t1 ;  
}  
head = dM → next ;  
delete dM ;  
return head ;  
}
```