ADDING TWO NUMBERS

☆ We are given the heads of two linked lists which each represent a number. Our job is to add the two numbers and return a new linked list.

Eg : LL1 : [1, 2, 3]
LL2 : [3, 0, 4, 8]

Ans : [4, 2, 7, 8]

Solution is very similar to adding 1 to a Linked List. The head of each linked list represent's that numbers unit place. This approach is called as dummy Node approach.

C++ :

```
Node * addTwoLinkedLists(Node * h1, Node * h2) {
    Node * dN = new Node(-1);
    Node * curr = dN;
    Node * t1 = h1;
    Node * t2 = h2;
    int carry = 0;
    while(t1 != nullptr || t2 != nullptr) {
        int sum = carry;
        if(t1 != nullptr) {
            sum += t1->data;
```

```
        }
        if (t2 != nullptr) {
            sum += t2->data;
        }
        Node* newNode = new Node(sum % 10);
        carry = sum / 10;
        curr->next = newNode;
        curr = curr->next;
        if (t1 != nullptr) {
            t1 = t1->next;
        }
        if (t2 != nullptr) {
            t2 = t2->next;
        }
    }
    if (carry != 0) {
        Node* newNode = new Node(carry);
        curr->next = newNode;
    }
    return dN->next;
}
```