**Add two numbers represented by linked lists**

Given two numbers, **num1** and **num2**, represented by linked lists of size **n** and **m**respectively. The task is to return a linked list that represents the sum of these two numbers.

For example, the number **190** will be represented by the linked list, **1->9->0->null,**similarly **25**by **2->5->null.**Sum of these two numbers is190 + 25 =**215,**which will be represented by**2->1->5->null.**You are required to return the head of the linked list**2->1->5->null.**

**Note:**There can be leading zeros in the input lists, but there should not be any leading zeros in the output list.

**Example 1:**

**Input:**

n = 2

num1 = 45 (4->5->null)

m = 3

num2 = 345 (3->4->5->null)

**Output:**3->9->0->null

**Explanation:**For the given two linked list (4 5) and (3 4 5), after adding the two linked list resultant linked list will be (3 9 0).

**Example 2:**

**Input:**

n = 4

num1 = 0063 (0->0->6->3->null)

m = 2

num2 = 07 (0->7->null)

**Output:**7->0->null

**Explanation:**For the given two linked list (0 0 6 3) and (0 7), after adding the two linked list resultant linked list will be (7 0).

**Your Task:**  
The task is to complete the function **addTwoLists()** which has node reference of both the linked lists and returns the head of the sum list.

**Expected Time Complexity:**O(n+m)  
**Expected Auxiliary Space:**O(max(n,m)) for the resultant list.

**Constraints:**  
1 <= n, m <= 104

class Solution

{

public:

Node\* reverse(Node \*head)//1221

{

Node\* prev=NULL;

Node\* next=NULL;

Node\* current=head;

while(current!=nullptr)

{

next=current->next;

current->next=prev;

prev=current;

current=next;

}

return prev;

}

Node\* addTwoLists(Node\* num1,Node\* num2)

{

num1=reverse(num1);

num2=reverse(num2);

Node\* head=nullptr;

int sum=0,carry=0;

while(num1!=nullptr and num2!=nullptr)

{

sum=num1->data+num2->data+carry;

Node\* temp=new Node(sum%10);

temp->next=head;

head=temp;//changing the head

carry=sum/10;

num1=num1->next;

num2=num2->next;

}

while(num2!=nullptr)

{

sum=num2->data+carry;

Node\* temp=new Node(sum%10);

temp->next=head;

head=temp;

carry=sum/10;

num2=num2->next;

}

while(num1!=NULL)

{

sum=num1->data+carry;

Node\* temp=new Node(sum%10);

temp->next=head;

head=temp;

carry=sum/10;

num1=num1->next;

}

if(carry>0)

{

Node\* temp=new Node(carry);

temp->next=head;

head=temp;

}

while(head->data==0 and head->next!=NULL)

{

head=head->next;

}

return head;

}

};

Link : <https://www.geeksforgeeks.org/problems/add-two-numbers-represented-by-linked-lists/1>