Add Two Numbers

Program:

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

// Definition for singly-linked list.
struct ListNode {
    int val;
    struct ListNode *next;
};

// Function to create a new node with a given value
struct ListNode* createNode(int val) {
    struct ListNode* newNode = (struct ListNode*)malloc(sizeof(struct ListNode));
    newNode->val = val;
    newNode->next = NULL;
    return newNode;
}

// Function to add two numbers represented by linked lists
struct ListNode* addTwoNumbers(struct ListNode* l1, struct ListNode* l2) {
    struct ListNode* dummyHead = createNode(0);
    struct ListNode* p = l1, *q = l2, *current = dummyHead;
    int carry = 0;
    while (p != NULL || q != NULL) {
        int x = (p != NULL) ? p->val : 0;
        int y = (q != NULL) ? q->val : 0;
        int sum = carry + x + y;
        carry = sum / 10;
        current->next = createNode(sum % 10);
        current = current->next;
```

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        if (p != NULL) p = p->next;
        if (q != NULL) q = q->next;
    }
    if (carry > 0) {
        current->next = createNode(carry);
    }
    struct ListNode* result = dummyHead->next;
    free(dummyHead);
    return result;
}

// Helper function to print the linked list
void printList(struct ListNode* head) {
    while (head != NULL) {
        printf("%d", head->val);
        if (head->next != NULL) {
            printf(" -> ");
        }
        head = head->next;
    }
    printf("\n");
}

// Helper function to free the linked list
void freeList(struct ListNode* head) {
    struct ListNode* tmp;
    while (head != NULL) {
        tmp = head;
        head = head->next;
        free(tmp);
    }
```

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}

int main() {
    // Example usage:
    // List 1: 2 -> 4 -> 3 (represents number 342)
    // List 2: 5 -> 6 -> 4 (represents number 465)

    struct ListNode* l1 = createNode(2);
    l1->next = createNode(4);
    l1->next->next = createNode(3);

    struct ListNode* l2 = createNode(5);
    l2->next = createNode(6);
    l2->next->next = createNode(4);

    // Adding the two numbers
    struct ListNode* result = addTwoNumbers(l1, l2);

    // Printing the result
    printf("Result: ");
    printList(result);

    // Freeing the allocated memory
    freeList(l1);
    freeList(l2);
    freeList(result);

    return 0;
}
```