

**Problem 5:** Given the **heads** of two non-empty linked lists representing two non-negative integers. The digits are stored in **reverse order**, and each of their nodes contains a single digit. Add the two numbers and return the **sum** as a linked list.

```
class ListNode:
```

```
    def __init__(self, val=0, next=None):
```

```
        self.val = val
```

```
        self.next = next
```

```
def addTwoNumbers(l1, l2):
```

```
    dummy = ListNode()
```

```
    curr = dummy
```

```
    carry = 0
```

```
    p1, p2 = l1, l2
```

```
    while p1 or p2:
```

```
        x = p1.val if p1 else 0
```

```
        y = p2.val if p2 else 0
```

```
        _sum = x + y + carry
```

```
        carry = _sum // 10
```

```
        curr.next = ListNode(_sum % 10)
```

```
        curr = curr.next
```

```
        p1 = p1.next if p1 else None
```

```
        p2 = p2.next if p2 else None
```

```
    if carry:
```

```
        curr.next = ListNode(carry)
```

```
    return dummy.next
```

```
l1 = ListNode(2)
```

```
l1.next = ListNode(4)
```

```
l1.next.next = ListNode(3)
```

```
l2 = ListNode(5)
```

```
l2.next = ListNode(6)
```

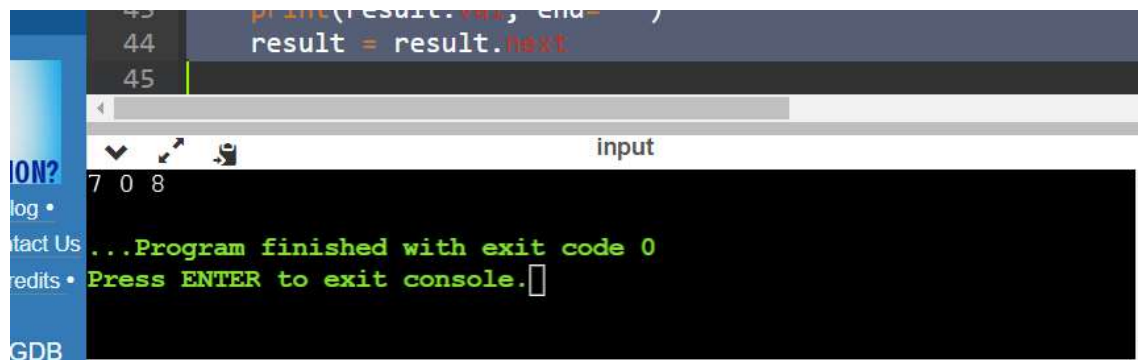
```
l2.next.next = ListNode(4)
```

```
result = addTwoNumbers(l1, l2)
```

```
while result:
```

```
    print(result.val, end=" ")
```

```
    result = result.next
```



The screenshot shows a code editor with Python code and a terminal window below it. The code editor has line numbers 43, 44, and 45. Line 43 contains `print(result.val, end=" ")` and line 44 contains `result = result.next`. The terminal window shows the output `7 0 8` and a message `...Program finished with exit code 0`. The terminal also displays `Press ENTER to exit console.` and a cursor. The terminal window is titled `input`.