

Write a program that will read in two numbers in as strings. Your program should store the digits in the number as a sort linked list. Your program should then merge the two linked list together in sorted order into a new linked list without changing the original two linked list. Your merge algorithm needs to run in $O(n+m)$ time with n and m being the length of the two linked lists. Your merge algorithm must be recursive.

```
Enter a number8926498
Enter a number124970912740
The linked lists
2->4->6->8->8->9->9->nullptr
0->0->1->1->2->2->4->4->7->7->9->9->nullptr
Merged linked lists
0->0->1->1->2->2->2->4->4->4->6->7->7->8->8->9->9->9->9->nullptr
The original linked lists again
2->4->6->8->8->9->9->nullptr
0->0->1->1->2->2->4->4->7->7->9->9->nullptr
_
```