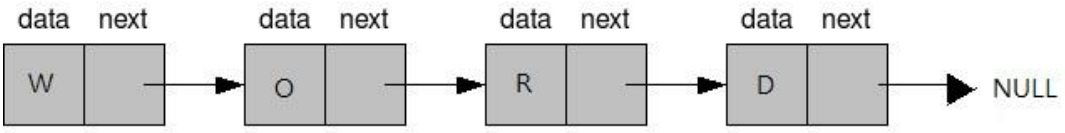
Homework #7

Due date: 18:00, December 5th, Monday, 2016

In this assignment, we would like to introduce a data structure called "linked list" to implement string reversing. The structure of linked list is as the following picture. (representing the string "word")



Linked list is constructed by a set of "nodes", each node contains both data(a char in this case) and a pointer pointing to the next node, and together the nodes form the whole string.

You are required to implement the linked list using struct, and in the struct there are a char and a pointer. Also, there are two functions needed, which are "add" and "reverse." Function "add" adds a character to the end of the list, and "reverse" find the reversal of the string in the list. You may change the return type of the function or add some input arguments, but the red part are needed.

```
struct Node
{
    char c;      // stores a charater of the input string
     struct Node *next;    // points to the next node
};  void append(struct Node*, …); // append a
character

char* reverse(struct Node*, …);  // reverse the string
```

Your job is to implement a linked list to store the input string, and try to find the reversal of the string. For example, if the input is "word", then you should output "drow".

Requirements

1. Implement linked list using struct and pointer
2. Implement function "add" and "reverse".
3. Store the input string in the linked list 4. There will be no blank space in the input string
5. You may assume the input to be correct.

6. Plagiarism is not allowed!

Sample run

Enter a string: thisisastring
string reversal : gnirtsasisiht

enter a string: ilovecs string
reversal : scevoli

enter a string: bdalab string
reversal : baladb

enter a string: 32418314 string
reversal : 41381423

enter a string: ^Z