

LeetCode 186

Description

Given an input string, reverse the string word by word. A word is defined as a sequence of non-space characters.

The input string does not contain leading or trailing spaces and the words are always separated by a single space.

For example,

Given s = "the sky is blue",
return "blue is sky the".

Could you do it in-place without allocating extra space?

Thought

We can reverse the whole string first and then reverse the words one by one.

Solution

```
public void reverseString(char[] str) {  
    //use helper function to reverse whole string  
    reverse(str, 0, str.length-1);  
  
    //use for loop to reverse each word of the reversed string  
    int start = 0;  
    int end = -1;  
    for (int i = 0; i < str.length; i++) {  
        if (str[i] == " ") { //find words by " ", and apply reverse function  
            reverse(str, start, i - 1);  
            start = i + 1; //reset start for the next word  
        }  
    }  
  
    //the for loop above will left the last word unreversed, so reverse one more time  
    reverse(str, start, str.length-1);  
}  
  
public void reverse(char[] str, int start, int end) {  
    while (start < end) {  
        char temp = str[start];  
        str[start] = str[end];  
        str[end] = temp;  
    }  
}
```

```
    start++;  
    end--;  
  }  
}
```

Takeaways

- Break big problem into small problems to get closer to solution
- Use helper function