

Reverse String

Write a function that takes a string as input and returns the string reversed.

Example:

Given s = "hello", return "olleh".

Solution 1

Cheating Method using StringBuilder

```
public class Solution {  
    public String reverseString(String s) {  
        return new StringBuilder(s).reverse().toString();  
    }  
}
```

Classic Method by swapping first and last

```
public class Solution {  
    public String reverseString(String s) {  
        char[] word = s.toCharArray();  
        int i = 0;  
        int j = s.length() - 1;  
        while (i < j) {  
            char temp = word[i];  
            word[i] = word[j];  
            word[j] = temp;  
            i++;  
            j--;  
        }  
        return new String(word);  
    }  
}
```

Same as previous but using byte instead

```
public class Solution {  
    public String reverseString(String s) {  
        byte[] bytes = s.getBytes();  
        int i = 0;  
        int j = s.length() - 1;  
        while (i < j) {  
            byte temp = bytes[i];  
            bytes[i] = bytes[j];  
            bytes[j] = temp;  
            i++;  
            j--;  
        }  
        return new String(bytes);  
    }  
}
```

Classic Method by swapping first and last

If you don't like temp variable

```
public class Solution {  
    public String reverseString(String s) {  
        byte[] bytes = s.getBytes();  
        int i = 0;  
        int j = s.length() - 1;  
        while (i < j) {  
            bytes[i] = (byte)(bytes[i] ^ bytes[j]);  
            bytes[j] = (byte)(bytes[i] ^ bytes[j]);  
            bytes[i] = (byte)(bytes[i] ^ bytes[j]);  
            i++;  
            j--;  
        }  
        return new String(bytes);  
    }  
}
```

Using recursion

```
public class Solution {  
    public String reverseString(String s) {  
        int length = s.length();  
        if (length <= 1) return s;  
        String leftStr = s.substring(0, length / 2);  
        String rightStr = s.substring(length / 2, length);  
        return reverseString(rightStr) + reverseString(leftStr);  
    }  
}
```

written by ratchapong.t (<https://leetcode.com/discuss/user/ratchapong.t>) original link here
(<https://leetcode.com/discuss/98774/many-acceptable-answers>)

Solution 2

```
class Solution {  
public:  
    string reverseString(string s) {  
        int i = 0, j = s.size() - 1;  
        while(i < j){  
            swap(s[i++], s[j--]);  
        }  
  
        return s;  
    }  
};
```

written by Ximin.Z (<https://leetcode.com/discuss/user/Ximin.Z>) original link here
(<https://leetcode.com/discuss/98776/simple-c-solution>)

Solution 3

```
class Solution(object):
    def reverseString(self, s):
        """
        :type s: str
        :rtype: str
        """
        return s[::-1]
```

written by cheffyu (<https://leetcode.com/discuss/user/cheffyu>) original link here
(<https://leetcode.com/discuss/98973/python-one-line-solution>)

From LeetCoder (<https://itunes.apple.com/ca/app/leetcoder/id1069760709?mt=8>).