

UCF "Practice" Local Contest — Aug 29, 2015

Let's Line Up Parentheses

Filename: parenlineup*(Difficulty Level: Medium)*

Given a string of parentheses, you are to use the vertical bar ('|') and underscore ('_') characters to connect the matching parentheses.

The Input:

The first input line will be a positive integer n , indicating the number of strings to be processed. Each of the following n input lines contains a string. Each string will be at most 30 characters and will contain only the open and close parentheses and spaces, i.e., no other characters. There will be at least one parenthesis in each input string.

The Output:

Print a heading for each input string. Then, print the string with exactly one space between parentheses. If there is any mismatched parentheses in the string, print the message "Parentheses do not match!" Otherwise, use the vertical bar and underscore characters to draw lines between matching parentheses. Each line must be at least one vertical bar in depth but no line should be deeper than it needs to be. Leave a blank line after the output for each data set. Follow the format illustrated in Sample Output.

(Sample Input/Output on the next page)

Sample Input:

3
(((() ())) ()
 ()
()

Sample Output:

Data set #1:

(() (() ())) ()
| | _ | | | _ | | | _ |
| | _ _ _ _ _ | |
| _ _ _ _ _ _ _ _ |

Data set #2:

(()

Parentheses do not match!

Data set #3:

())

Parentheses do not match!