LAB – Balanced Parentheses and Stuff

Write a program that uses a stack to test for balanced parentheses, braces and brackets. Read an expression from the keyboard as a string and scan for ‘(‘, ‘)’, ‘[‘, ‘]’, ‘{‘ and ‘}’.

Report to the user whether or not the expression was properly parenthesized, which is determined by every left paren, brace or bracket being matched with its equivalent right sibling.

For example:

{A [B (C) [D] {E} F] (G)} is correct, but

{A [B} ] and {A [B] are not correct.

Use a stack of Character objects to implement your program. Write the testing method to accept a String argument and return a boolean. The stack that you use should be defined within the method, so that the method can be easily implemented in other programs.