**Exercise No:** 14

**Date:** 20/10/2020

**Aim:**

To write a Python class to find validity of a string of parentheses, '(', ')', '{', '}', '[' and '].

These brackets must be close in the correct order, for example "()" and "()[]{}" are valid

but "[)", "({[)]" and "{{{" are invalid.

**Program:**

def areBracketsBalanced(expr):

stack=[]

open\_expressions=['{','[','(']

for i in range(len(expr)):

if(expr[i] in open\_expressions):

stack.append(expr[i])

else:

if not stack:

return False

curr=stack.pop()

if(curr == '{' and expr[i]!='}'):

return False

if(curr == '[' and expr[i]!=']'):

return False

if(curr == '(' and expr[i]!=')'):

return False

if stack:

return False

else:

return True

if \_name\_ == "\_main\_":

expr=input()

if(areBracketsBalanced(expr)):

print("valid")

else:

print("invalid")

**Link:**

[**http://103.53.53.18/mod/vpl/forms/edit.php?id=327&userid=1728**](http://103.53.53.18/mod/vpl/forms/edit.php?id=327&userid=1728)

**Output:**

**Input:**

Input: ()

**Output:**

Output: valid

**Result:**

The output of the program is to write a Python class to find validity of a string of parentheses, '(', ')', '{', '}', '[' and '].