

# Homework - 7

## IC100 Introduction To Programming

### Question 1

Given a string  $s$  containing just the characters '(' and ')', determine if the input string is balanced.

Print "Balanced" if the string is balanced otherwise print "Not Balanced"

You can use the stack data structure developed in the previous assignment.

An input string is balanced if:

- Open brackets must be closed by the same type of brackets.
- Open brackets must be closed in the correct order.

Input format:

- First line contains an integer  $N$  denoting the number of inputs
- Next  $N$  line contains the input string

Output format:

- For each input string print "Balanced" or "Not Balanced" in a new line

Example

Input:

3

()()

()(

((()))()

Output:

Balanced

Not Balanced

Balanced

### Question 2

Given a string  $s$  containing just the characters '(', ')', '[', ']', '{' and '}', determine if the input string is balanced.

Print "Balanced" if the string is balanced otherwise print "Not Balanced"

You can use the stack data structure developed in the above question.

An input string is balanced if:

- Open brackets must be closed by the same type of brackets.
- Open brackets must be closed in the correct order.

Additional Constraints:

- Curved ( ) brackets can contain only ( ) brackets
- Square brackets [ ] can contain only [ ] and ( ) brackets
- Curly { } brackets can contain { }, [ ] and ( ) brackets

Input format:

- First line contains an integer N denoting the number of inputs
- Next N line contains the input string

Output format:

- For each input string print “Balanced” or “Not Balanced” in a new line

Example

Input:

3

{()() }

[{}() ]

{[()]{ }() }

Output:

Balanced

Not Balanced

Balanced

## Submission

Please submit your homework in piazza under hw8 folder and make it a private submission to the instructors. Zip all the codes and name the zip as yourname\_rollno

Submission deadline is 8:00pm Jan 24.