

SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

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Department of Artificial Intelligence and Data Science

Course Name: 23ITB201 Data structures and Algorithms

II Year / III semester

Unit II – Stack and Queue ADT

Topic: Balanced Parenthesis

expression containing only '(', ')', '{', '}', '[', ']', check whether it is balanced or not.

An expression is balanced if each opening bracket is closed by the same type of bracket in the exact same order.

Check for Balanced Brackets in an Expression using Stack

expression string exp.

If character is a starting bracket ('(' or '{' or '[') then push it to

If character is a closing bracket (')' or '}' or ']') then pop from

If character is the matching starting bracket then fine else brace

d.

After traversal, if there is some starting bracket left in stack then

D”

Stack	Expression	Action
	{[]}	Push
({[]})	Push
{	[]})	Push
{[]})	Pop
{	})	Pop
()	Pop
Empty		

The stack is empty, hence the given expression was balanced.