

DSA Lab 5 – Stacks

CSE102
March 7, 2025

Instructions

- **Language:** All code must be written in C only.
- **Submission:** Submit only the .c file.

Evaluation – Stack Parenthesis Problem

Problem Statement

Write a C program that checks whether a given expression containing parentheses (including { }, [], and ()) is balanced. Use your own stack implementation with dynamic memory allocation.

Requirements

- **Input:** A string containing various types of parentheses.
- **Output:** Print “Balanced” if the expression has matching open and closed parentheses; otherwise, print “Not Balanced”.

Sample Test Cases

1. **Input:** {[()]}
Output: Balanced
2. **Input:** {[()]}
Output: Not Balanced
3. **Input:** [()()] {}
Output: Balanced