Lab 8: Stack app

Objective(s)

- Practice some stack applications.

Tool(s)/Software

Java programming language with NetBeans IDE.

Tasks/Assignments(s)

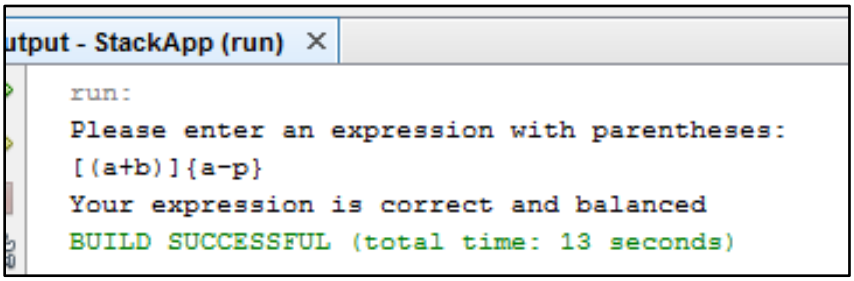
1- **Missing Brackets Checking:** Write a method to find if an expression has missing brackets or not using **StackLinkedList**. The method takes a String expression as a parameter and return True if the expression's brackets are correct and False otherwise.

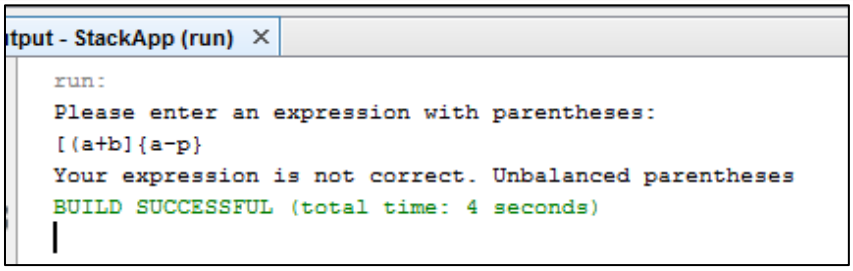
- If you see a **(, [, or {, push it on the stack**
- If you see **a),], or }**, **pop the stack** and **check** whether you got the corresponding **(, [, or {**
- When you reach the end, **check that the stack is empty**

  If (stack is empty) **Then** Correct & Balance

  Else Incorrect & Unbalance **[End If]**

Sample outputs:





2- **Converting Decimal to Binary:** Write your own Stack program to implement the following problem.(Discussion board will be available on 3/3/2022 to 6/3/2022) opened from

Consider the following pseudocode to convert Decimal to Binary:

Read (number)
Loop (number > 0)
1) digit = number modulo 2
2) **print** (digit)
3) number = number / 2

The problem with this code is that it will print the binary number backwards. (ex: 19 becomes 11001000 instead of 00010011)

To remedy this problem, instead of printing the digit right away, we can **push** it onto the stack. Then after the number is done being converted, we pop the digit out of the stack and **print** it.

Deliverables(s)

You are required to implement and deliver a Java program(s) as described in the previous section.