

# Project 1

DeAngelo Bowen

UMGC – CMSC 350 7383

March 28, 2022

Infix Expressions Calculator

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# Assumptions

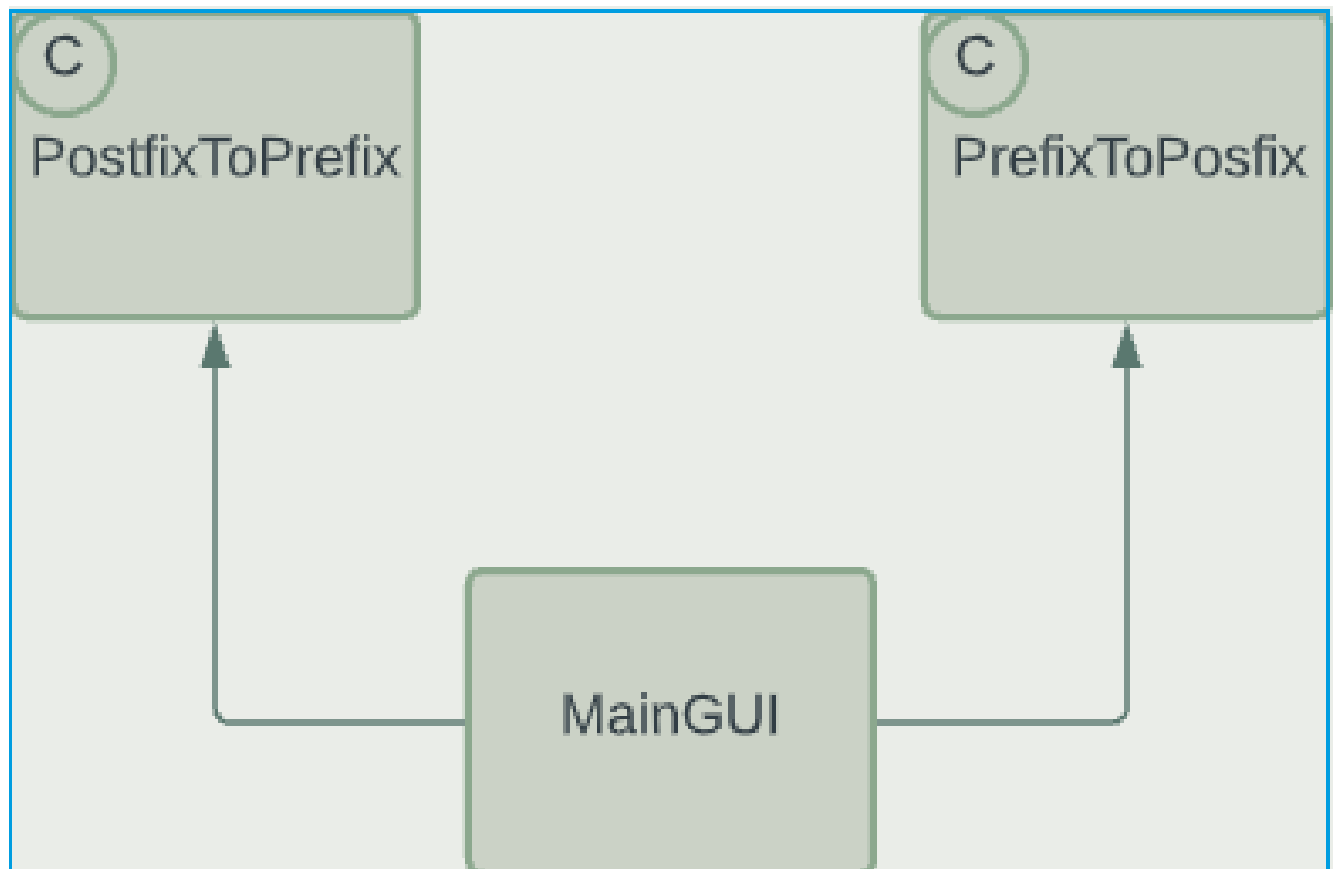
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I have made no assumptions to this project as it was a relatively new experience for myself. After testing, I am confident that the work I've provided will meet at minimum 90% of the testing to follow this page. I will be adjusting scripts as required throughout testing should I not meet a test requirement.

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## UML Diagram

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# Test Cases

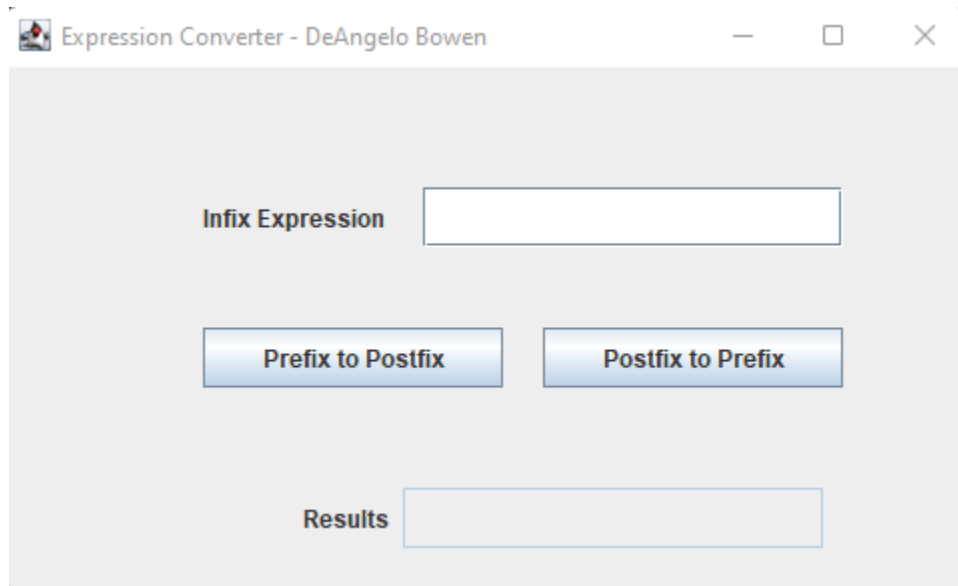
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Aspect Tested	Input	Expected Output	Actual Output	Test Outcome
"+" operator, equation without spaces	++2+456	245++6+	245++6+	Passed
"*" operator, equation with spaces	* 2 + 2 - + 12 9 2	2 2 1 2 +9 -+*	2 2 1 2 +9 -+*	Passed
"/" operator	3 4 + 2 * 7 /	3 +4 *2 /7	3 +4 *2 /7	Passed
Invalid Character	?%+2 * 2	Incorrect Input Error Message	Incorrect Input Error Message	Passed
Invalid Prefix Expression	3 +4 *2 /7	Incorrect Input Error Message	Incorrect Input Error Message	Passed
Invalid Postfix Expression	* 2 + 2 - + 12 9 2	Incorrect Input Error Message	Incorrect Input Error Message	Passed

# Final Product

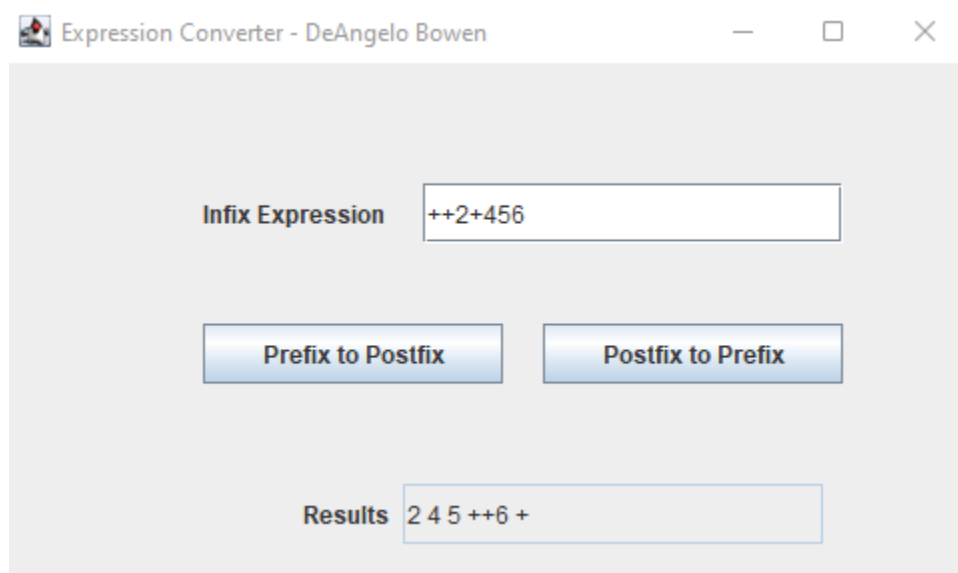
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Initial display of the product:



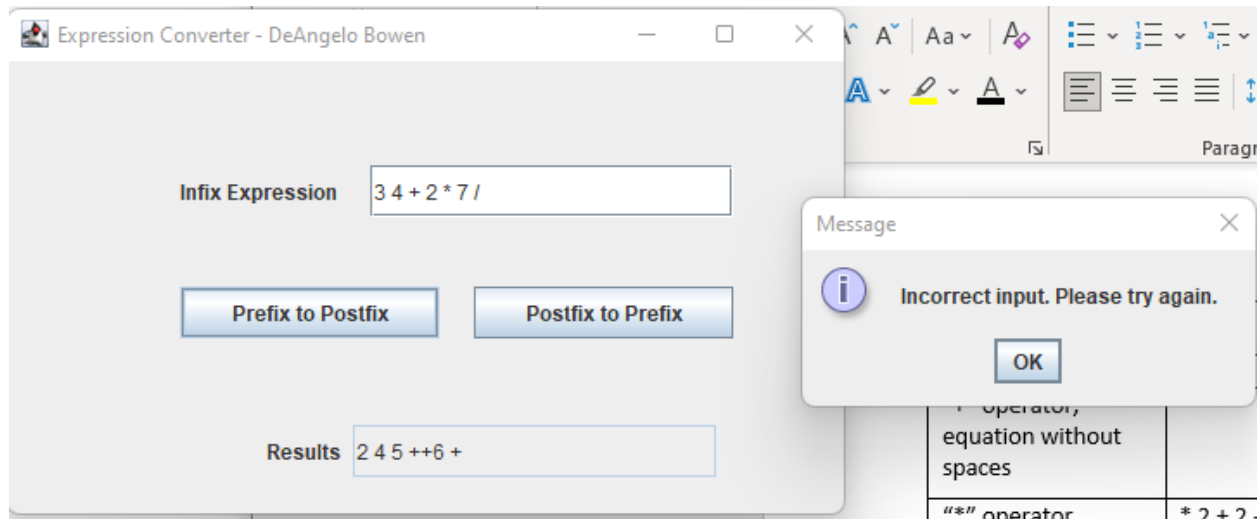
The screenshot shows a window titled "Expression Converter - DeAngelo Bowen". Inside the window, there is a label "Infix Expression" followed by an empty text input field. Below this, there are two buttons: "Prefix to Postfix" and "Postfix to Prefix". At the bottom, there is a label "Results" followed by an empty text input field.

Prefix to Postfix Expression Success:

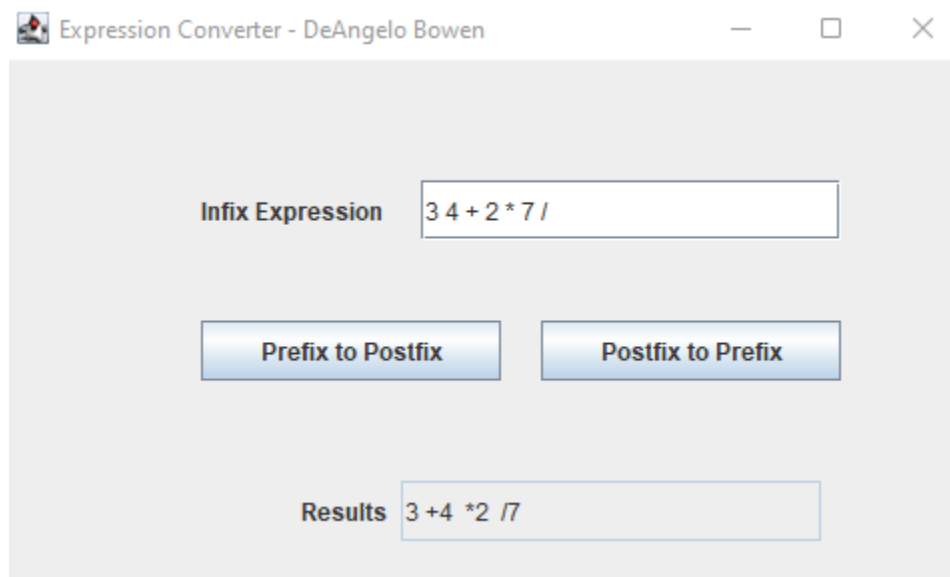


The screenshot shows the same window as before, but now the "Infix Expression" field contains the text "++2+456". The "Results" field contains the text "2 4 5 ++6 +". The "Prefix to Postfix" button is still visible.

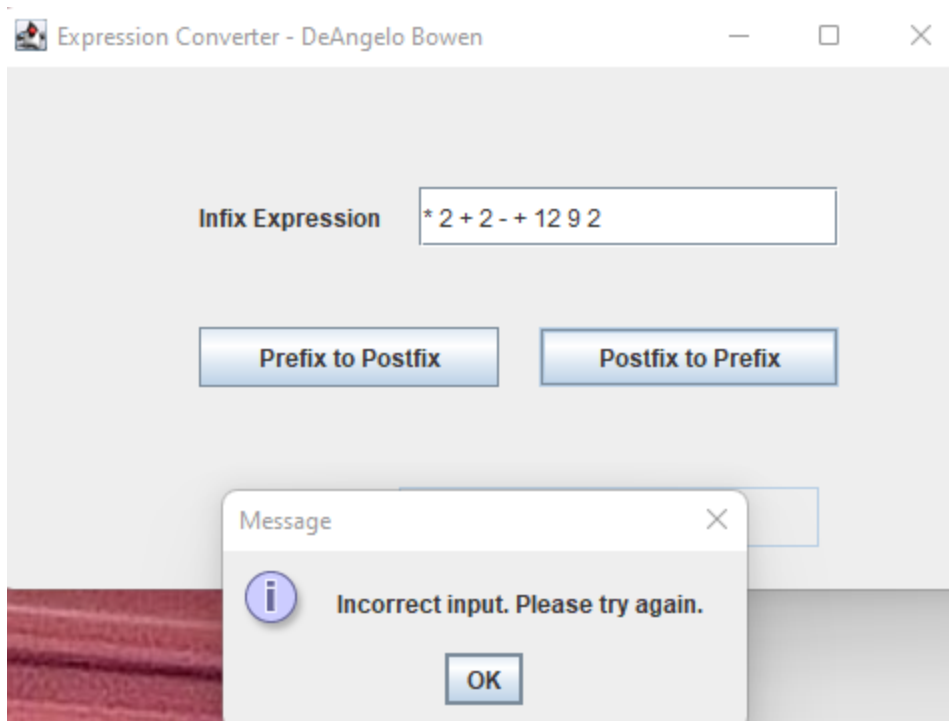
## Prefix to Postfix Expression Fail:



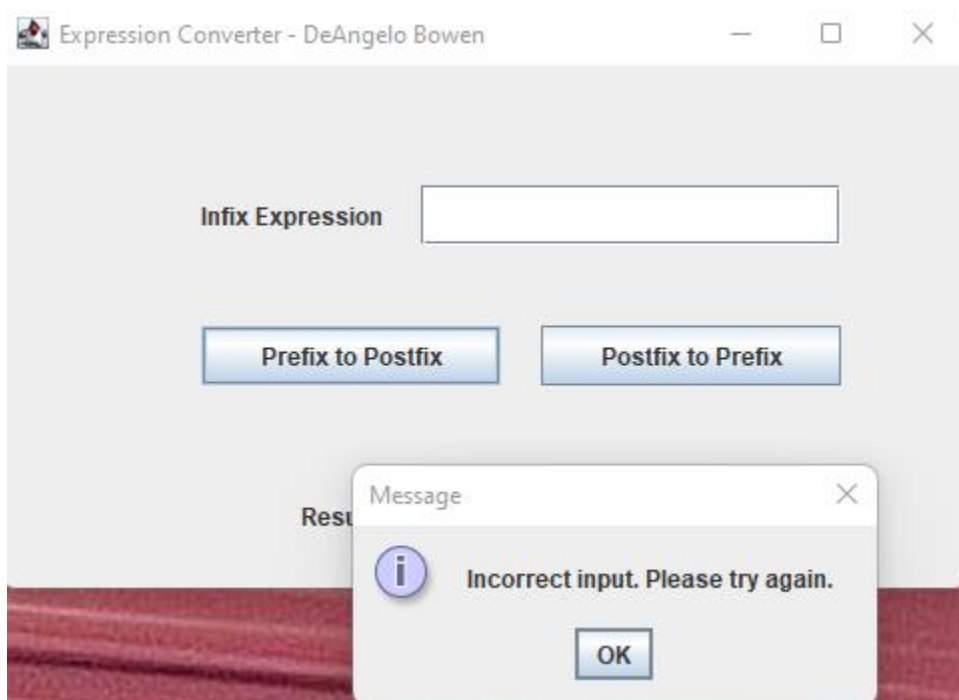
## Postfix to Prefix Expression Success:



## Postfix to Prefix Expression Fail:

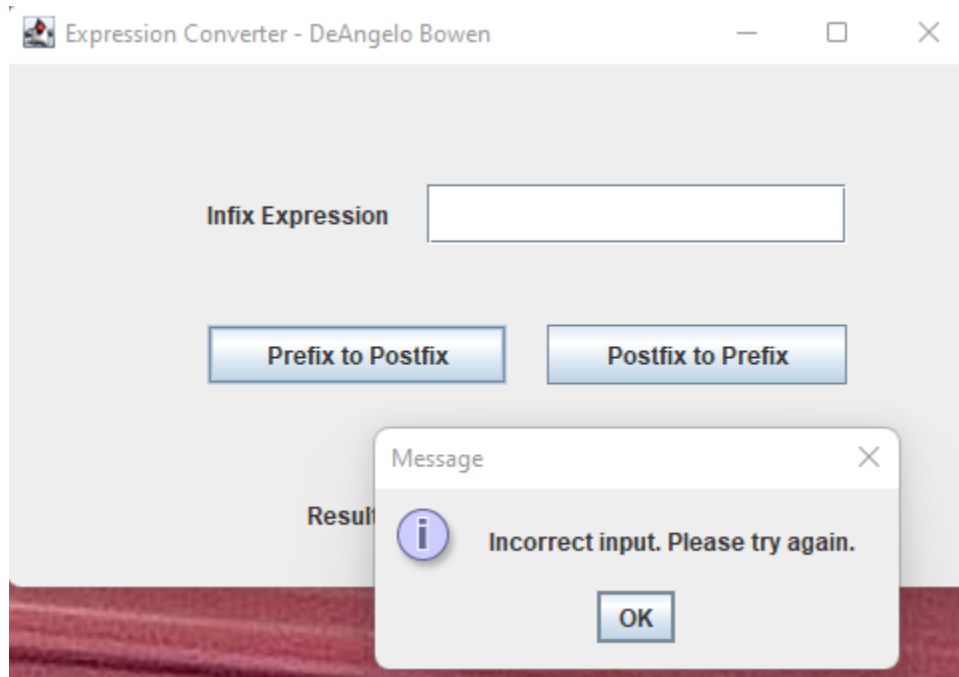


Empty Postfix to Prefix Expression:





## Empty Prefix to Postfix Expression:



# Lessons Learned

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I would say that the lessons learned for myself would be nearly the entire structure of this project. Coming in this project I hadn't had much experience creating stacks in java, nor much experience with .pop amongst many other functions up into but not excluding the "x.getText().replaceAll(" ", ",")" function that took me hours to come across. Overall it was a great learning experience for myself, and a great refresher for using and creating a custom GUI since it had been quite a while. I look forward to future projects in CMSC 350 7383.