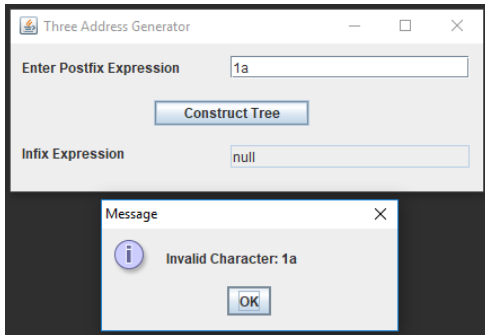


## TEST PLAN

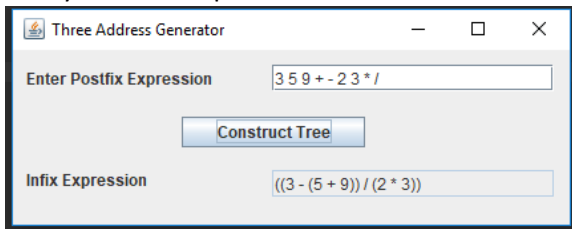
### Test Case 1: Testing user input invalid characters

1. Input "1a"
2. Click Construct Tree button
3. Verify Invalid character window pops up



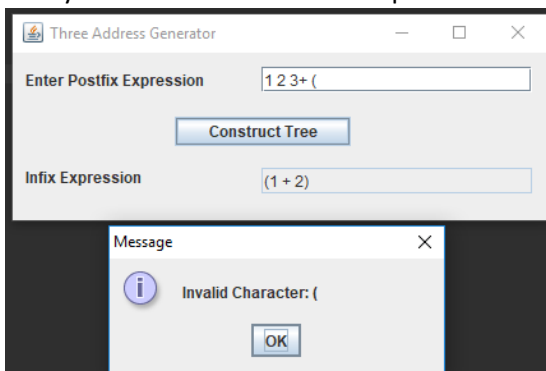
### Test Case 2: Testing all operators with spaces

1. Input "3 5 9 + - 2 3 \* /"
2. Click Construct Tree button
3. Verify the infix expression



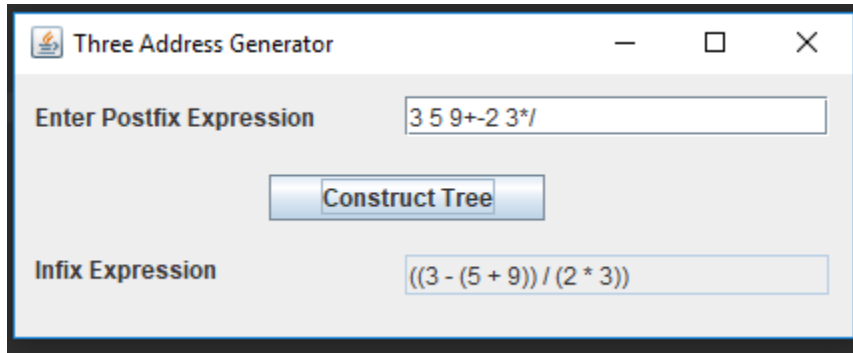
### Test Case 3: Testing an expression with invalid operator

1. Input "1 2 3+ ("
2. Click Construct Tree button
3. Verify the Invalid Character exception window pops up

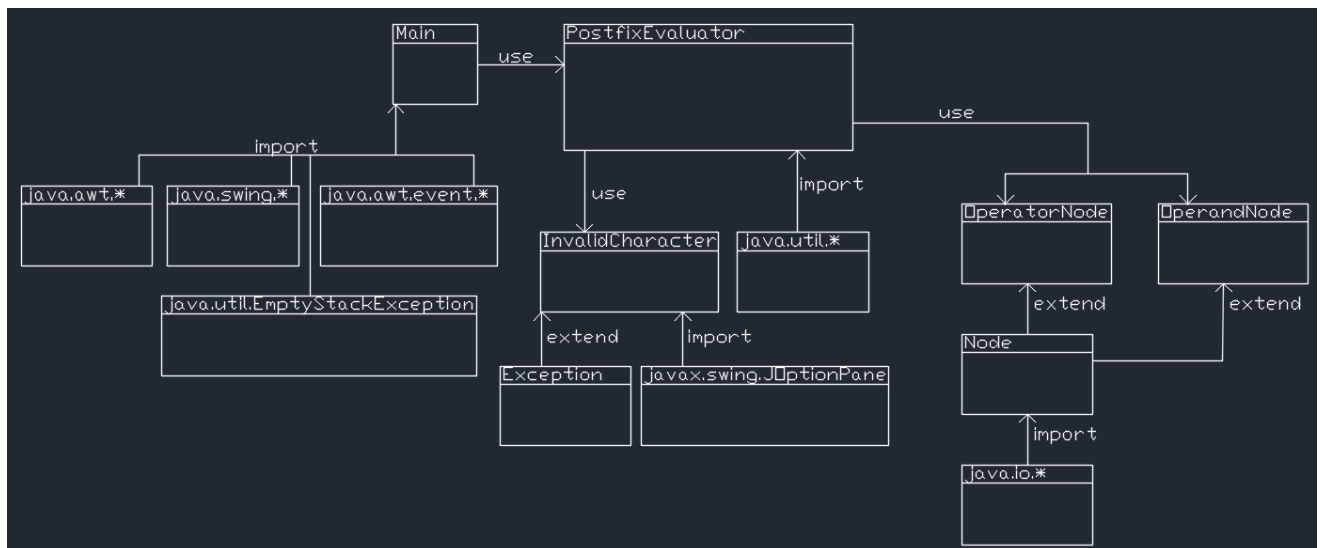


#### Test Case 4: Testing all operators without spaces

1. Input "3 5 9+-2 3\*/"
2. Click Construct Tree button
3. Verify the correct result



#### UML Diagram



#### Lessons Learned

The beginning of this project was overwhelming when I realized I couldn't reuse a lot of my code from the first project. It wasn't until I read the following week's course material that covered the postfix expressions examples. The video the teacher posted about postfix expressions was actually very helpful despite the terrible audio quality. I was able to experiment with the code from course materials and determine how I can use it and modify it to fit my project. I found it difficult tracking the register numbers correctly for the three-address file. My code builds the tree correctly and tracks the registers correctly, but I had difficulty incrementing the number of the register correctly. One of the students in the class shared a video of tree and pseudocode algorithm which I found much more helpful than the course's reading material in understanding how the trees work.