CSC 413 Project Documentation

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https://github.com/csc415-03-spring2019/csc413-p1-sd321sd

Introduction

Project Overview: In this project I tried to create simplified version of a calculator. It is very basic calculator because it only operates on addition, subtraction, multiplication, division, and power operations. It is also supposed to be working for small interfaces and numbers.

Technical Overview: In this project we were given Evaluator class, Operator, Operand, Evaluator UI. Evaluator Driver. We were given the complete version of Evaluator class where we stack operator and operands. The main class were supposed to work was Operator class where I made the hashmap of all the sub classes like addoperator, subtractionOperator, Multiplication Operator, DivisionOperator, Power Operator, LeftParenOperator, RightParenOperator. Then I connected the hashmap with these sub classes. I also had to implement a check and a get method in the Operator classes; these would make sure the token being passed is a valid operator and to return a new object of the type the token specified. Each subclass of Operator had two methods that were abstract from Operator. They each would return their priority value as an integer and a method that would carry out their operation. As for the Operand class, I had two constructors, one would take a token as an argument and the other a integer as a value. I was given a unit test file and told to move on to the GUI only once I was able to pass all the tests. The GUI was mostly completed for us. I had to hook up our Evaluator class to it and make sure the correct action is performed depending on the button pressed.

Summary of work completed: Unfortunately my program was not running properly. I think in the Evaluator I made some wrong assumption while making stack for operator and Operand. First of all my program was running but after I worked on the operator class it would stop working and everytime I run the program it would return the result null. Similarly, I think my GUI part is working as the codes looks pretty good , but it is the main program that looks sheddy.

Development environment

A. Java version: 10.0.1

B. IDE: Intellij IDEA 2019.1.1

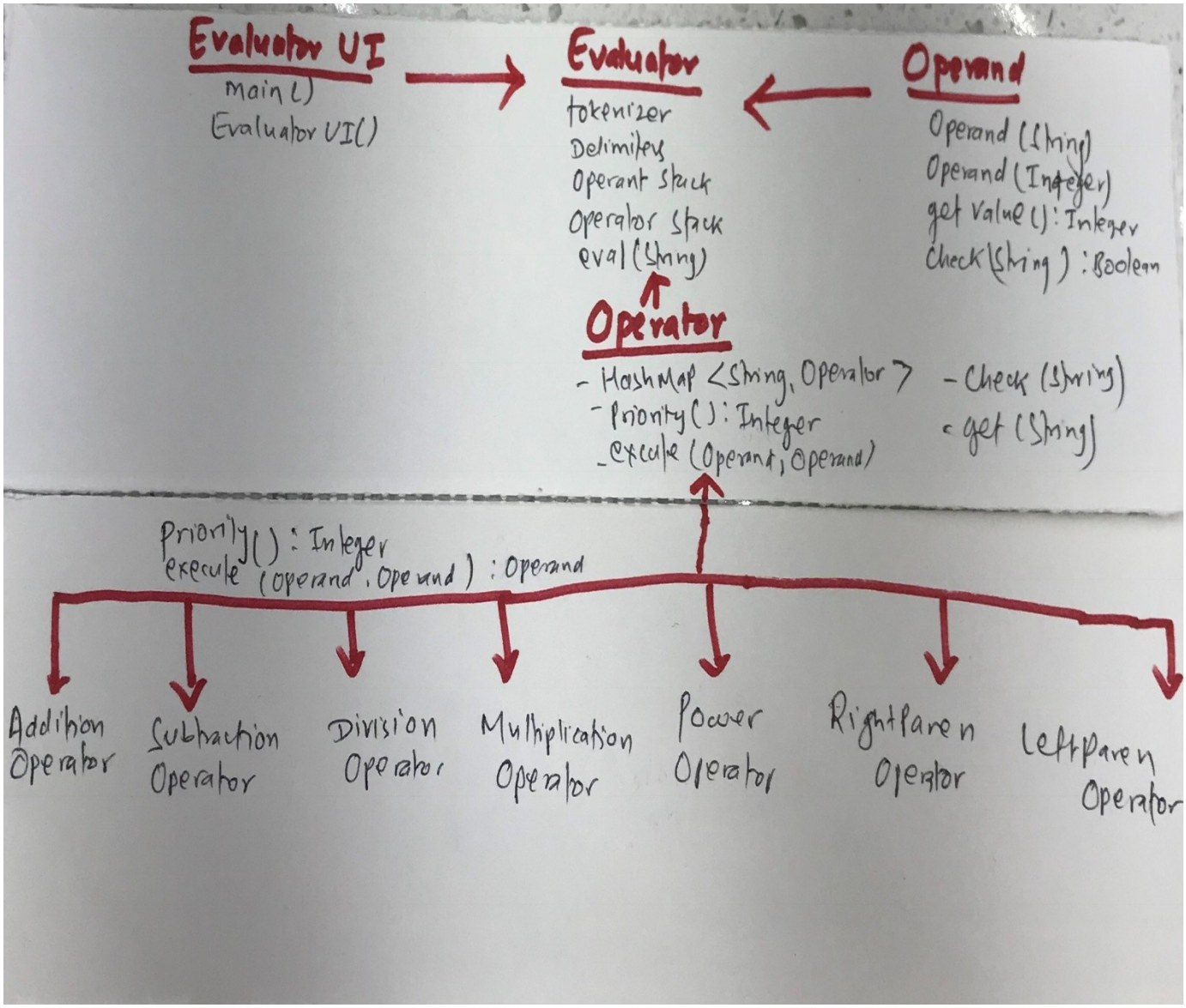
. **How to import the project:** Check our from version control → Git → make sure URL is correct and rename if needed → clone → login if needed → checkout from version control pop-up, hit yes → create project from existing sources → next → change project name if need → next → make sure check box if checked → next → next → make sure check box if checked → next → select project SDK, I used Java 10.0.1 → next → finish

How to run project: Build menu → Build Project (Ctrl + F9) → Right click on EvaluatorUI file under Evaluator folder which is under the calculator folder on the file explorer pane → Run "EvaluatorUI.main()"

Assumptions made: - No negative numbers as initial operands, but negative answers is fine

- User would enter only integers
- No double operator

Implementation Discussion : My program was implemented as shown in the following graphical representation.



Project Reflection: Unfortunately my program did not run as I expected. I tried as hard as I could , this would be because I was writing code in Java after a long time. I think my fault was I did not discuss with friends as much. As we know that group discussion really helps , but I am determined to make it work and also from future projects I will work in group so I can learn more.

Project Conclusions and Results: I am determined to make this program work and for the future project I will start working on it more sooner.