Senior Project Report

Young Song

June 2, 2016

1 Introduction

This is an application that the user can manually input the numbers of variable and operation. The created formula is usable for different values.

2 Tokenize

Each variable and operator is tokenized whenever the users choose and add to their formulas. Each token has its type as final integer. Therefore, to check its type, i just be able to call its name of type. The advantage of using token class is that I do not need further tokenize for parsing. It saves much work.

3 Parsing

More plain text.

4 Call Existing

This function allows uses don't need to make same formula by adding varaible and operator one by one to append or edit it. Users can just simply call the same formula and append the formula to whatever they currently have. This can save the time of users.

5 Save and Retreive Data

The first idea for save is to serialize the formul create class which is the arralist of formula to the text or bin file. However, because, whenever application restarts, it reseted the content of the text file, I rather used the bundle to save the state of the application. In saved instance, I put the arraylist of formula, and whenever the application restarts and the class is created, if the saved instance is not empty, it calls the arraylist of formula which is saved in saved instance.

6 Challenge

The most challenging part of this project was to implement parsing function. The original idea of using parsing is to implement the CUP or ANTLR which create the grammar rule for the parsing and automatically create the java file. However, the tutorial file of CUP and ANTRL was not compiled for some reasons. So, I had to manually create the parsing function. This was pretty challenging because I had to convert the formula in post form and push it to the binary tree. Because I had to do this from scratch, it took much time.

7 Future Work