

CS502: Compiler Design

Fall 2021

Assignment A3: Honey, I Shrunk the Code

1 Assignment Objective

Use JavaCC and JTB to lower PoohPJ programs to PoohTJ.

2 Problem Statement

Pooh is ready to eat honey after you made it eatable in your previous assignment, but some portions are so complex (*long multi-address instructions*) that he may not be able to digest the same. Our task in this assignment is to simplify the expressions in PoohPJ programs to a three-address format, such that the result follows the PoohTJ grammar. Efficiency is not a concern, so you are free to use any number of temporary variables and/or redundant PoohTJ statements.

p.s. One PC to someone who justifies the title of this assignment in the most apt way.

3 Evaluation

Your submission must be named `rollnum-a3.zip`, where `rollnum` is your roll-number in small letters. Upon unzipping the submission, we should get a directory named `rollnum-a3`. The main class inside this directory should be named `Main.java`. Your program should read from the standard input and print to the standard output. You can leave all the visitors and syntax-tree nodes as it is, but remember to remove all the `.class` or `.jar` files.

We will first check whether your output file gets parsed successfully by the PoohTJ parser. If it does, then the output of running the generated PoohTJ file should be the same as the input PoohPJ file in order to fetch you the marks for the corresponding testcase.

Your assignment will be graded for a total of 100 marks and then scaled down to the marks mentioned on the course webpage. Out of the 100 marks, 45 marks will be assigned to the public testcases (both input PoohPJ and output PoohTJ programs uploaded on Moodle) and 55 marks will be assigned to private testcases (to be released after assignment evaluation).

4 Plagiarism Warning

You are allowed to discuss publicly on the Slack channel, but are supposed to do the assignment completely individually. We would be using sophisticated plagiarism checkers, and if similarity is found, the penalty used in the course would be as follows:

- First instance: 0 marks in the assignment
- Second instance: F grade in the course