CS4120/4121/5120/5121—Spring 2023

Programming Assignment 5

Assembly Code Generation

Due: Tuesday, April 18, 11:59PM

For this programming assignment, you will implement an *assembly-code generator* for the Eta programming language. Assembly code is generated from the intermediate representation, making your compiler fully functional. The assembly code should be processable by the GNU assembler and linkable with the runtime library we provide in order to produce working executables.

0 Changes

- None yet; watch this space.

1 Instructions

1.1 Grading

Solutions will be graded on documentation, completeness, correctness, and style. 5% of the score is allocated to whether bugs in past assignments have been fixed.

1.2 Partners

You will work in a group of 3–4 students for this assignment. This should be the same group as in the last assignment. If not, please discuss with the course staff.

Remember that the course staff is happy to help with problems you run into. For help, read all Ed posts and ask questions (that have not already been addressed), attend office hours, or schedule a meeting with course staff.

1.3 Package names

Please ensure that all Java code you submit is contained within a package whose name contains the NetID of at least one of your group members. Subpackages under this package are allowed; they can be named however you would like.

2 Building on previous programming assignments

Use your lexer from PA1, your parser from PA2, your type checker from PA3, and your IR generator from PA4. Part of your task for this assignment is to fix any problems that you had in the previous assignments. Discuss these problems in your overview document, and explain briefly how you fixed them.