Phase 4: Compiler Extension

Compiler Construction
Radboud University

1 Background

In the fourth and last assignment you design, plan and execute an self-chosen extension, but agreed upon by the teachers, for your compiler.

2 Learning Outcome

Design, plan and execute an extension to a compiler. You come up with an extension, fit it into the compiler and execute it.

3 Instructions

Get your extension approved and then execute the extension for your compiler. The second code generation lecture will contain many ideas for an extension. They range from memory management, extra language constructs, additional machine targets, formal analyses, etc.

4 Deliverables

Approval Before you start on the extension you have to get approval. This is done by handing in your extension proposal on Brightspace. You can always discuss your extension earlier via e-mail or a Q&A session.

Presentation All groups will present their complete compiler including the extension. The presentations are split over the two lectures that week and who presents when is announced on Brightspace.

The presentation focusses primarily on the extension. However, if there are peculiarities in other phases that you could not present earlier you can include them as well. We all know the language and the theory, so you should just mention things specific to your analyses, like how you handled some interesting language constructions, and other interesting points.

Report sections Furthermore, finish the up the entire report[1]. The provided skeleton contains example questions that you can answer but make sure the report is self contained.

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[1]The provided skeleton for the report is mandatory and can be found here: `https://gitlab.science.ru.nl/compilerconstruction/material`

5 Discussion

During the course you make your own implementation of a complete Simple Programming Language (SPL) compiler accompanied by a report that will be tried on the oral exam. The extension on its own is not graded but only as part of the total project. This means that after handing in the report with the extension, the entire report is graded.

There is no rubric for this phase, the extension will be graded on complexity, completeness, and expertise about the subject.