Master

Compiler 2016

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About name

Master Compiler is named after a role in Doctor Who: The Master.

Properties

It's a superset of Mx* in which member function/method is permitted.

Basic structure

Procedures

- Parser: From source code to AST.

- From AST to Linear IR.

- From Linear to CFG(with a subtle optimization).

- Register allocation.

- From IR to MIPS.

Front End

Parser

ANTLR: source code -> CST.

AST

Convert CST to AST:

Firstlistener: Initialize, collect all class names.

Secondlistener: Collect all function names and arguments.

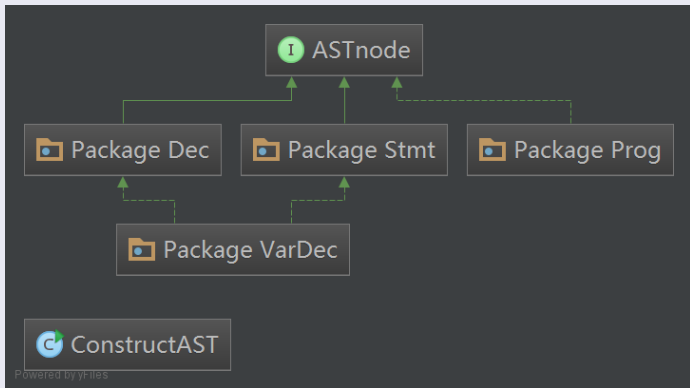Thirdlistener: Construct the whole AST.

Front End

Structure of Symbol Table

Front End

Structure of AST

Back End

Linear IR & CFG