

Milestone #3: Register-Based LLVM

Overview

For this milestone, you will augment your compiler to use virtual registers for all local variables and parameters. This will require modifications to the LLVM instruction generation to ensure that all virtual register use is in static single-assignment (SSA) form.

It is recommended that you follow the algorithm of Braun, et. al., to construct LLVM in SSA form with virtual registers as discussed in lecture and described in the paper linked from the course website.

Command-line Options

You will want to maintain the option to use the LLVM representation with stack allocation (from milestone #2, via the `-stack` option) to allow comparisons between the two representations at the end of the course.