



Homework H7

1 Description

Write an LLVM pass starting from the code you have developed for H6.

The goal of this assignment is to make your code analysis inter-procedural. While your code analysis needs to become inter-procedural, your code transformation (i.e., constant propagation) has to stay intra-procedural.

You are free to make your own design choices for H7. However, you must be able to generate better code than your H6 for at least 2 tests.

2 Testing your work

H7.tar.bz2 includes examples of C programs using multiple functions. The tests included in the package do not check whether or not your H7 compiler generates better code than H6. These tests check only whether or not the generated binary preserves the same program output of the original C program.

This is because there are many possible solutions for your H7 compiler that can lead to many different optimized bitcode. I will check your H7 improvements manually. Comments in the code are welcome.

3 What to submit

Submit via Canvas the C++ file you've implemented (CatPass.cpp).

For your information: my solution for H7 added 149 lines of C++ code to H6 (computed by `sloccount`).

4 Homework due

11/16 at noon

Good luck with your work!