Programming Assignment 1:
Constructing a Control Flow Graph

Instructions:

The goal of the homework is to learn how to construct a control flow graph using the existing tools. Here are a set of steps I advise:

1. select and install a program analysis framework (please make sure you are downloading the most recent version so I can test your code if needed). Majority program analysis tools are built on Soot (for Java), or LLVM (for C). But you can also select a framework that you potentially use in your research.

2. write a program to construct a CFG using the APIs from the program analysis framework. Your will write a function that converts CFG to dotty files so you can visualize your output using the tool dot

3. write three small programs as test cases and prepare a test design documentation to justify what are the purposes for each test case (you can add more test cases if you need to).

This homework accounts 3% of your final grades. Please push to your homework repo: 1) the source code of your analysis and a simple readme file to explain what framework and environment you have used to run your code; 2) the test cases and the design rationale for the test cases; and 3) the output for your test cases. You will get full credits if your test cases are reasonable, and your outputs are correct. You will get partial credits if your output has mistakes, in which case, I will inspect the source code of your analysis. This homework is due Feb 5 (Mon) 6:00 pm.

References: