CS536   Advanced Compiler

Assignment II (Generate SSA and DFG),

Deadline : 30ᵗʰ September 2022 Thursday 11.59PM

- Submission Procedure: Upload your code (zipped folder) to MS team. The assignment need to be done individually. **Copy case lead to F Grade**

- You need to demonstrate your code in your machine and TA will evaluate the same.

- Please create stand alone compiler pass for the same (sample skeleton pass uploaded to MS Team).

Create a LLVM pass, which take LLVM IR file of "lbm.c" uploaded to MS Team and

- Identify the biggest basic block. Basic block with highest number of instruction

- Generate SSA (single static assignment) of the biggest basic block. If you wish you can create your own data structure to store the instructions of the basic block.

- Generate Data Flow Graph (not the syntax tree) of the operations of the biggest basic block. If you wish you can create your own data structure to store the instructions of the basic block

In this assignment, we don't modify the input program IR file, we only read the IR file, so we preserve all the analyses.

Running LLVM Pass means: $opt -passes=your_llvm_pass lbm.ll

Hint: You can get information by reading the CPP files of sub-directories of llvm/lib/Transforms