Compiler Assignment
Phase 2

Team Members:

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How to run:

$ cd Pass/build/

$ make

```
vagrant@ubuntu-mantic:~/src/compiler_project/CS201-F23-Template/Pass/build$ make
[ 50%] Building CXX object CMakeFiles/ReachingDefinition.dir/ReachingDefinition.cpp.o
[100%] Linking CXX shared module libReachingDefinition.so
[100%] Built target ReachingDefinition
```

$ cd test/phase2/

$ ./create_input.sh

$ ./test.sh 1.ll

vi 1.ll

```
 1    ReachingDefinition: By Anvaya and Arnav : Compiler Construction Phase-II: test
 2    -----entry-----
 3    GEN: 4 5
 4    KILL: 3
 5    IN:
 6    OUT: 4 5
 7    -----if.then-----
 8    GEN: 12 15
 9    KILL: 4 5
10    IN: 4 5
11    OUT: 12 15
12    -----if.else-----
13    GEN: 18 19
14    KILL: 4
15    IN: 4 5
16    OUT: 5 18 19
17    -----if.end-----
18    GEN:
19    KILL:
20    IN: 5 12 15 18 19
21    OUT: 5 12 15 18 19
22
```

ReachingDefinition.cpp

The reaching definition algorithm goes as follows:

- Retrieve Information of instructions for the IR
- Calculate the GEN and KILL sets for each block
- Computer the IN, OUT sets and print the required sets

Note:
Some of the make files and scripts have been modified with the path the llvm as per environment requirements. The original paths have been commented, please uncomment for your requirement.