

## CS335 Milestone 3 - Creating 3AC code for java program

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Extend the 3AC IR from Milestone 2 to add runtime support for procedure calls. We have used flex and bison for lexical scanning and parsing respectively. We have also used C++ to implement typechecking and source program conversion.

**Compilation instructions-** To compile, first navigate to the directory 'src' in the terminal. The files in this directory are: scanner.l, parser.y, tree.h, tree.cpp, typecheck.h, typecheck.cpp, 3AC.h, 3AC.cpp, symbol\_table.h and symbol\_table.cpp. To compile the program, run the following command in the terminal:

```
1 make
```

You may get an warning stating 'clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is deprecated', please ignore that.

**Execution instructions-** An executable 'ans' would have been created in the directory 'milestone1'. To execute the program with a test case file 'test1.java' in the "tests" directory, run the following commands from the src directory:

```
1 ./ans -input ../tests/test1.java -output graph.dot
```

The output will be created in a txt file called 'final\_3AC.txt' in the same directory, in the required format. Please open to check the output. Options supported in the parser are:

```
1 --help: For usage guidelines
2 -input <file>: Passes the input java file to the parser to be read
3 -output <file>: Creates the dot script containing the AST in <file>
4 -verbose: Prints entire line of error
```

#### Assumptions:

- main function is used at the end of the code, and the functions/classes used are declared above.