

CS335A: COMPILER DESIGN



Project Milestone 4

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Requirements

- A linux system with the following installed:
 1. Flex
 2. Bison
 3. Graphviz
 4. g++ (newer versions)

Instructions to Run

- Please add return statement at the end of every function before running the testcases in case of void functions.
- *cd milestone4/src*
- *make*
- `bash ./AST_Gen.sh -i ../tests/<test_number>.java -o <test_number>.dot -v 1`
 - i : Path to input file containing Java Code
 - o : Path to output file storing the resulting dot script
 - v : Set it to 1 if verbose flag is needed to be true
 - h : Set it to 1 if any help is required.

Basic features omitted

- Object Creation (Any class related feature) Implemented upto milestone 3.

We could not figure out an effecient way to create new objects on heap, and pass the corresponding "this" pointer to the parent functions in x86.

Basic features implemented

- The following operators are supported: $\{+, -, *, /, + =, - =, * =, / =, <, >, < =, > =, |, , ++, -, ==, !=, \%, \ll, \gg, \}$

- Conditional statements - if-then / if-then-else.
- Loop statements - for and while.
- Break and continue statements.
- Array declaration and access (Reading and writing to dynamic memory on heap).
- Function calls (Including recursion).

Extensions to Milestone3

- Added memory assigned to temporary variables and corresponding offsets so that stack manipulation could be done in x86.
 - Modified 3AC for array declaration and access to make it compatible with x86 code generation.
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Contribution

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