

Introduction to Compiler Construction SS15

Team Prolog:

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Bitwise Shift Instructions: `fct_sll(v)` and `fct_srl(v)`

Implemented, used existing functions `add` and `nop` as templates

Bitwise Shift Operators: `<<` and `>>`

Implemented, extended scanner/parser by using `<=` (and similar) as templates

Constant Folding:

Implemented, created proto-array aka pointer “`constantVal`” with two fields (boolean value foldable and actual value)

Arrays:

Implemented new data type “array” with selectors, consisting mainly of three new grammar entries `gr_arrayfactor`, `gr_arraystatement` and `gr_arraydeclaration`. Working as intended.

Structs:

Implemented and did work in the past. (see our pull request dating back to that time), for some reason currently not (really). We cannot access structs directly any more, only when using a pointer to a struct. Of course we plan to restore this functionality as soon as possible. Alex is trying to find the bug while I am typing.

Boolean Operators: `!`, `&&`, `||`

Implemented somehow. We can use chains of logicals ANDs and ORs, however they may not be of arbitrary length. At some point it starts to output unexpected results. We assume a bug in our fixup chain. Logical NOT (`!`) currently requires parentheses around the inverted term. Output of long boolean terms differs from run to run (cstar, mipster 1, mipster 2, etc.) with same input. (=Results funny, trying to fix it.)

Memory Management: `free`

Work in progress. Used `malloc` as template and created a chain of free-pointers. Not doing anything productive currently however.

Additional info:

Implemented increment/decrement operators, allowing us for example to use `i++` or `j--` as loop counters.

Mainly used a test environment (flagged as such) within the main selfie code instead of external test files.