An Ontology of Languages



Low Level Languages

<u>Exp0</u> - a small, prefix expression language with single letter keywords, variable names, and digits.

<u>Exp1</u> - same language as exp0 but with full keywords and arbitrary variable names and digits. Full lexical analysis.

High Level Languages

<u>Exp1Bytecode</u> - a bytecode language that supports prefix expressions and branching. We introduce the notion of true and false based on integer values: true if value != 0 and false if value == 0.

Exp2Bytecode - same as Exp1Bytecode but with function calls and expanded IO

X86-64 assembly language

<u>Cuppa1</u> - a simple scripting language. no scoping and no explicit variable declaration.

<u>Cuppa2</u> - a language just like Cuppa1 except that we have explicit scoping and variable declarations.

<u>Cuppa3</u> - a language just like Cuppa2 but include function declarations, call statements, and expressions with functions.

<u>Cuppa4</u> - same as Cuppa3 but now includes data types.

<u>Cuppa5</u> - same as Cuppa4 but now includes the array data type.