

Languages-beta: SIMPLE-1-Lexical *

The PPlanCompS Project

SIMPLE-1-Lexical.cbs | PLAIN | PRETTY

OUTLINE

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Language "SIMPLE"

1 Lexical Syntax

Syntax $V : \text{value} ::= \text{bool} \mid \text{int} \mid \text{string}$

$\text{bool} ::= \text{'false'} \mid \text{'true'}$

Lexis $Z : \text{int} ::= ('0' - '9')^+$

Syntax $\text{string} ::= \text{'_'string-chars_}'$

Lexis $S : \text{string-chars} ::= (\sim \text{'_'})^*$

Semantics $\text{val}[_ : \text{value}] : \Rightarrow \text{values}$

1.1 Booleans

Rule $\text{val}[\text{'false'}] = \text{false}$

Rule $\text{val}[\text{'true'}] = \text{true}$

1.2 Integers

Rule $\text{val}[Z] = \text{decimal-natural}(\text{"Z"})$

1.3 Strings

Rule $\text{val}[\text{'_' S _}] = \text{"S"}$

*Suggestions for improvement: plancomps@gmail.com.
Reports of issues: <https://github.com/plancomps/CBS-beta/issues>.

1.4 Identifiers

Lexis $ld : id ::= ('A' - 'Z' \mid 'a' - 'z' \mid '_') ('0' - '9' \mid 'A' - 'Z' \mid 'a' - 'z' \mid '_')^*$

Semantics $id \llbracket _ : id \rrbracket : \Rightarrow ids$

Rule $id \llbracket ld \rrbracket = "ld"$

Lexis $keyword ::= 'false' \mid 'true' \mid 'var' \mid 'function' \mid 'sizeof' \mid 'read'$
 $\mid 'spawn' \mid 'if' \mid 'else' \mid 'while' \mid 'for' \mid 'print' \mid 'return'$
 $\mid 'try' \mid 'catch' \mid 'throw' \mid 'join' \mid 'acquire' \mid 'release'$
 $\mid 'rendezvous'$