

# Unstable-Languages-beta: SIMPLE-THR-1-Lexical \*

The PPlanCompS Project

SIMPLE-THR-1-Lexical.cbs | PLAIN | PRETTY

## OUTLINE

### 1 Lexical Syntax

#### 1.1 Booleans

#### 1.2 Integers

#### 1.3 Strings

#### 1.4 Identifiers

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*Language* "SIMPLE-THR"

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

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\*Suggestions for improvement: [plancomps@gmail.com](mailto: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*  $keyword ::= 'false' \mid 'true' \mid 'var' \mid 'function' \mid 'sizeof' \mid 'read'$   
                   $\mid 'spawn' \mid 'if' \mid 'else' \mid 'while' \mid 'for' \mid 'print' \mid 'return'$   
                   $\mid 'try' \mid 'catch' \mid 'throw' \mid 'join' \mid 'acquire' \mid 'release'$   
                   $\mid 'rendezvous'$