

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

The P<sub>Plan</sub>CompS 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*  $Z : \text{int} ::= (\text{'0'} - \text{'9'})^+$

*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**  $Id : \text{id} ::= ('A' - 'Z' \mid 'a' - 'z' \mid \_ ) ('0' - '9' \mid 'A' - 'Z' \mid 'a' - 'z' \mid \_ )^*$

Semantics  $\text{id}[\_ : \text{id}] : \Rightarrow \text{ids}$

Rule  $\text{id}[\textit{Id}] = \textit{"Id"}$

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

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