

# Languages-beta: SL-1-Lexemes \*

The P<sub>L</sub>anCompS Project

SL-1-Lexemes.cbs | PLAIN | PRETTY

## OUTLINE

### 1 Lexemes

Identifiers  
Numerals  
Strings

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*Language* “SL”

## 1 Lexemes

### Identifiers

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

*Semantics*  $id \llbracket Id : id \rrbracket : \Rightarrow ids$

*Rule*  $id \llbracket Id \rrbracket = "Id"$

### Numerals

*Syntax*  $Int : int ::= '-'? \_nat$

*Lexis*  $Nat : nat ::= ('0' - '9')^+$

*Semantics*  $int\text{-}val \llbracket Int : int \rrbracket : \Rightarrow integers$

*Rule*  $int\text{-}val \llbracket '-' \ Nat \rrbracket = integer\text{-}negate \ int\text{-}val \llbracket Nat \rrbracket$

*Rule*  $int\text{-}val \llbracket Nat \rrbracket = decimal\text{-}natural \ "Nat"$

### Strings

*Syntax*  $String : string ::= '"' \_string\text{-}chars\_ '"'$

*Lexis*  $StringChars : string\text{-}chars ::= string\text{-}char^*$

$string\text{-}char ::= \sim ('' \mid '\backslash n')$

*Semantics*  $string\text{-}val \llbracket String : string \rrbracket : \Rightarrow strings$

*Rule*  $string\text{-}val \llbracket '"' \ StringChars \ '"' \rrbracket = "StringChars"$

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\*Suggestions for improvement: [plancomps@gmail.com](mailto:plancomps@gmail.com).  
Reports of issues: <https://github.com/plancomps/CBS-beta/issues>.