

Languages-beta: SIMPLE-1-Lexical

The PLaNCompS Project

Languages-beta/SIMPLE/SIMPLE-1-Lexical/SIMPLE-1-Lexical.cbs*

Language "SIMPLE"

1 Lexical Syntax

```
Syntax V : value ::= bool
                  | int
                  | string
bool ::= false
      | true
Lexis Z : int ::= (0 – 9)+
Syntax string ::= "_string-chars_"
Lexis S : string-chars ::= (~")*

Semantics val [ _ : value ] : ⇒ values
```

1.1 Booleans

```
Rule val [ false ] =
    false
Rule val [ true ] =
    true
```

1.2 Integers

```
Rule val [ Z ] =
    decimal-natural("Z")
```

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

1.3 Strings

Rule `val` $\llbracket \text{" S " } \rrbracket =$
 `"S"`

1.4 Identifiers

Lexis `Id` : `id` ::= (A – Z | a – z | `_`) (0 – 9 | A – Z | a – z | `_`)*

Semantics `id` $\llbracket _ : \text{id} \rrbracket : \Rightarrow$ `ids`

Rule `id` $\llbracket \text{Id} \rrbracket =$
 `"Id"`

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