Unstable-Languages-beta: IMPPP-1

The PLanCompS Project

`Unstable-Languages-beta/IMPPP/IMPPP-1/IMPPP-1.cbs`[*]

Language "IMPPP"

1 Values

Integers

$$\textit{Syntax } N : \text{int} \ ::= \ \text{-}^?\text{\_decimal}$$

$$\textit{Lexis } D : \text{decimal} \ ::= \ (0-9)^+$$

$$\textit{Semantics int-val}[\![\ \_ : \text{int} \ ]\!] : \Rightarrow \text{integers}$$

$$\textit{Rule int-val}[\![\ D \ ]\!] =$$
$$\text{decimal-natural}(\text{``}D\text{''})$$

$$\textit{Rule int-val}[\![\ \text{-} \ D \ ]\!] =$$
$$\text{integer-negate}(\text{int-val}[\![\ D \ ]\!])$$

Strings

$$\textit{Syntax } S : \text{string} \ ::= \ \text{"\_string-chars\_"}$$

$$\textit{Lexis } SCS : \text{string-chars} \ ::= \ (\sim \text{"})^*$$

$$\textit{Semantics string-val}[\![\ \_ : \text{string} \ ]\!] : \Rightarrow \text{strings}$$

$$\textit{Rule string-val}[\![\ \text{"} \ SCS \ \text{"} \ ]\!] =$$
$$\text{``}SCS\text{''}$$

Identifiers

Lexis l : id ::= $(\mathtt{A} - \mathtt{Z} \mid \mathtt{a} - \mathtt{z} \mid \mathtt{\_})\ (\mathtt{0} - \mathtt{9} \mid \mathtt{A} - \mathtt{Z} \mid \mathtt{a} - \mathtt{z} \mid \mathtt{\_})^{*}$

Semantics id⟦ _ : id ⟧ : ⇒ ids
    Rule id⟦ l ⟧ =
         "l"

Lexis keyword ::= `else`
          | `false`
          | `if`
          | `halt`
          | `join`
          | `print`
          | `read`
          | `spawn`
          | `true`
          | `while`