Languages-beta: IMP-2

The PLanCompS Project

`Languages-beta/IMP/IMP-2/IMP-2.cbs`*

Language "`IMP`"

2 Boolean expressions

Syntax *BExp* : bexp ::= `false`
| `true`
| aexp `<=` aexp
| `!` bexp
| bexp `&&` bexp
| `(` bexp `)`

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

Semantics eval-bool⟦ _ : bexp ⟧ : ⇒ booleans

Rule eval-bool⟦ `false` ⟧ =

false

Rule eval-bool⟦ `true` ⟧ =

true

Rule eval-bool⟦ $AExp_1$ `<=` $AExp_2$ ⟧ =

is-less-or-equal(eval-arith⟦ $AExp_1$ ⟧,

eval-arith⟦ $AExp_2$ ⟧)

Rule eval-bool⟦ `!` $BExp$ ⟧ =

not(eval-bool⟦ $BExp$ ⟧)

Rule eval-bool⟦ $BExp_1$ `&&` $BExp_2$ ⟧ =

if-true-else(eval-bool⟦ $BExp_1$ ⟧,

eval-bool⟦ $BExp_2$ ⟧,

false)

Rule eval-bool⟦ `(` $BExp$ `)` ⟧ =

eval-bool⟦ $BExp$ ⟧