

Languages-beta: IMP-4

The PPlanCompS Project

Languages-beta/IMP/IMP-4/IMP-4.cbs*

Language “IMP”

4 Programs and variable declarations

Syntax $Pgm : \text{pgm} ::= \text{int idlist} ; \text{stmt}$

Semantics $\text{run}[\![_ : \text{pgm}]\!] : \Rightarrow \text{null-type}$

Rule $\text{run}[\![\text{int } IL ; Stmt]\!] =$
 $\text{scope}(\text{collateral}(\text{declare-int-vars}[\![IL]\!]),$
 $\text{execute}[\![Stmt]\!])$

Syntax $IL : \text{idlist} ::= \text{id} (, \text{idlist}) ?$

Semantics $\text{declare-int-vars}[\![_ : \text{idlist}]\!] : (\Rightarrow \text{environments})^+$

Rule $\text{declare-int-vars}[\![I]\!] =$
 $\text{bind}(\text{id}[\![I]\!],$
 $\text{allocate-initialised-variable}(\text{integers},$
 $0))$

Rule $\text{declare-int-vars}[\![I , IL]\!] =$
 $\text{declare-int-vars}[\![I]\!],$
 $\text{declare-int-vars}[\![IL]\!]$

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