

# Languages-beta: IMP-4 \*

The PLaNCompS Project

IMP-4.cbs | PLAIN | PRETTY

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*Language* "IMP"

## 4 Programs and variable declarations

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

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

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

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

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

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

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

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