IMP

MODULE IMP-SYNTAX

SYNTAX *AExp* ::= *Int*
| *String*
| *Id*
| `++` *Id*
| `read` ()
| *AExp* `/` *AExp* [strict(strict())]
| *AExp* `+` *AExp* [strict(strict())]
| `spawn` *Block* [strict(strict())]
| *Id* `=` *AExp* [strict(strict(2))]
| (*AExp*) [bracket(bracket())]

SYNTAX *BExp* ::= *Bool*
| *AExp* ≤ *AExp* [strict(strict())]
| `!` *BExp* [strict(strict())]
| *BExp* && *BExp* [strict(strict())]
| (*BExp*) [bracket(bracket())]

SYNTAX *Block* ::= {*Stmts*}

SYNTAX *Stmt* ::= *Block*
| *AExp* `;` [strict(strict())]
| `if` (*BExp*)*Block* `else` *Block* [strict(strict())]
| `while` (*BExp*)*Block* [strict(strict())]
| `int` *Ids* `;`
| `print` (*AExps*) `;` [strict(strict())]
| `halt` `;`
| `join` *AExp* `;` [strict(strict())]

SYNTAX *Ids* ::= *List*{*Id*, “,”} [strict(strict())]

SYNTAX *AExps* ::= *List*{*AExp*, “,”} [strict(strict())]

SYNTAX *Stmts* ::= *List*{*Stmt*, “”} [seqstrict(seqstrict())]

END MODULE

MODULE IMP

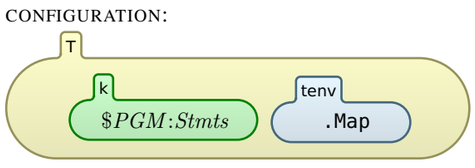
SYNTAX *BlockOrStmtType* ::= `block`
| `stmt`

SYNTAX *PrintableType* ::= `int`
| `string`

SYNTAX *Type* ::= *PrintableType*
| `bool`
| *BlockOrStmtType*

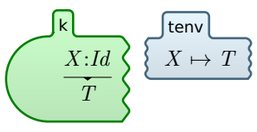
SYNTAX *KResult* ::= *Type*

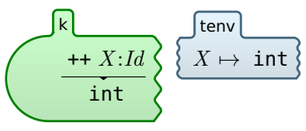
CONFIGURATION:



RULE $\frac{\text{—:Int}}{\texttt{int}}$

RULE $\frac{\text{—:String}}{\texttt{string}}$

RULE 

RULE 

RULE $\frac{\texttt{read}\ ()}{\texttt{int}}$

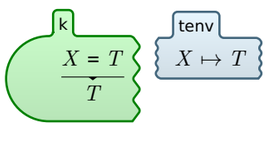
SYNTAX *AExp* ::= *Type*

RULE $\frac{\texttt{int}\ /\ \texttt{int}}{\texttt{int}}$

RULE $\frac{\texttt{int}\ +\ \texttt{int}}{\texttt{int}}$

RULE $\frac{\texttt{string}\ +\ \texttt{string}}{\texttt{string}}$

RULE $\frac{\texttt{spawn block}}{\texttt{int}}$

RULE 

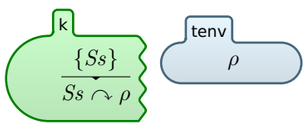
SYNTAX *BExp* ::= *Type*

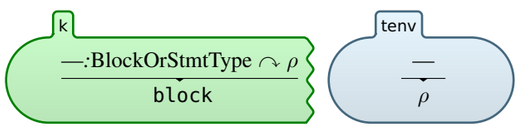
RULE $\frac{\text{—:Bool}}{\texttt{bool}}$

RULE $\frac{\texttt{int}\ \leq\ \texttt{int}}{\texttt{bool}}$

RULE $\frac{\texttt{!}\ \texttt{bool}}{\texttt{bool}}$

RULE $\frac{\texttt{bool}\ \&\&\ \texttt{bool}}{\texttt{bool}}$

RULE 

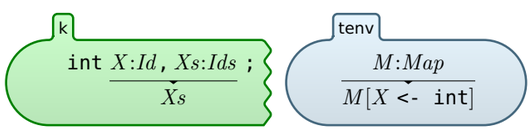
RULE 

RULE $\frac{\texttt{int}\ \texttt{;}}{\texttt{stmt}}$

SYNTAX *Block* ::= *Type*

RULE $\texttt{if}\ (\ \texttt{bool}\ )\ \texttt{block}\ \texttt{else}\ \texttt{block}$
$\texttt{stmt}$

RULE $\texttt{while}\ (\ \texttt{bool}\ )\ \texttt{block}$
$\texttt{stmt}$

RULE 

RULE $\frac{\texttt{int}\ \bullet_{Ids}\ \texttt{;}}{\texttt{stmt}}$

RULE $\texttt{print}\ (\underline{\text{—:PrintableType}\ ,\ AEs})\ \texttt{;}$
AEs

RULE $\frac{\texttt{print}\ (\bullet_{AExps})\ \texttt{;}}{\texttt{stmt}}$

RULE $\frac{\texttt{halt}\ \texttt{;}}{\texttt{stmt}}$

RULE $\frac{\texttt{join}\ \texttt{int}\ \texttt{;}}{\texttt{stmt}}$

RULE $\frac{\bullet_{Stmts}}{\texttt{stmt}}$

RULE $\frac{\text{—:BlockOrStmtType}\ Ss}{Ss}$

END MODULE