IMPPP

MODULE IMPPP-SYNTAX

SYNTAX *AExp* ::= *Id*
| *Int*
| *AExp* `/` *AExp* [prec(31), superheat, strict]
| *AExp* `+` *AExp* [prec(33), superheat, strict]
| `(`*AExp*`)`

SYNTAX *BExp* ::= *Bool*
| *AExp* ≤ *AExp* [prec(37), seqstrict]
| `not` *BExp* [prec(53), strict]
| *BExp* `and` *BExp* [prec(55), strict(1)]
| `(`*BExp*`)`

SYNTAX *Stmt* ::= `skip`
| `var` *Ids* [prec(70)]
| `print` `(`*AExps*`)` [strict]
| `halt`
| *Id* `:=` *AExp* [prec(80), strict(2)]
| `if` *BExp* `then` *Stmt* `else` *Stmt* [prec(85), strict(1)]
| `while` *BExp* `do` *Stmt* [prec(85)]
| `spawn` *Stmt* [prec(90)]
| *Stmt* `;` *Stmt* [prec(100)]
| `(`*Stmt*`)`
| `{}`
| `{`*Stmt*`}` [gather(&)]

SYNTAX *Ids* ::= $List\{Id, ","\}$ [strict]

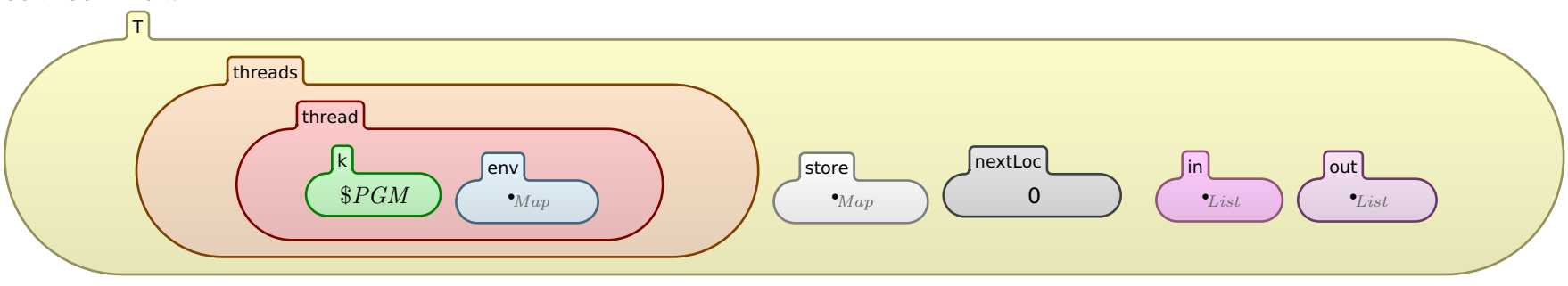
SYNTAX *AExp* ::= *String*
| `++` *Id* [prec(0)]
| `read` `()`

SYNTAX *AExps* ::= $List\{AExp, ","\}$

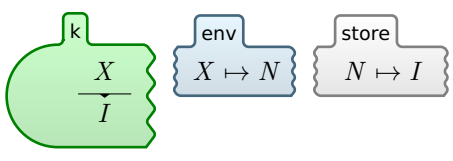
END MODULE

MODULE IMPPP

CONFIGURATION:



SYNTAX *KResult* ::= *Int*
| *Bool*

RULE  [supercool, transition]

RULE $\dfrac{I1 \texttt{ + } I2}{I1 +_{Int} I2}$

RULE $\dfrac{I1 \texttt{ / } I2}{I1 \div_{Int} I2}$ when $I2$ `=/=Int 0`

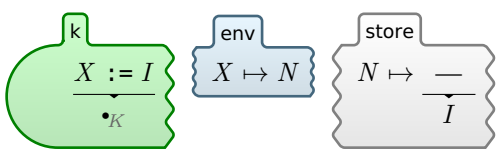
RULE $\dfrac{I1 \leq I2}{I1 \leq_{Int} I2}$

RULE $\dfrac{\texttt{not } T}{\neg_{Bool} T}$

RULE $\dfrac{\texttt{true and } B}{B}$

RULE $\dfrac{\texttt{false and } B}{\texttt{false}}$

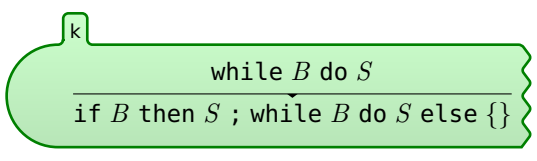
RULE $\dfrac{\texttt{skip}}{\bullet_K}$

RULE  [transition]

RULE $\dfrac{S1 \texttt{ ; } S2}{S1 \curvearrowright S2}$ [structural]

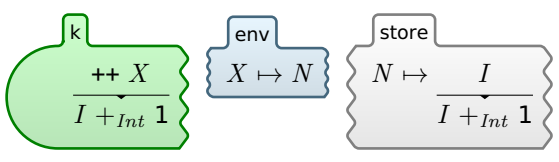
RULE $\dfrac{\texttt{if true then } S1 \texttt{ else } —}{S1}$

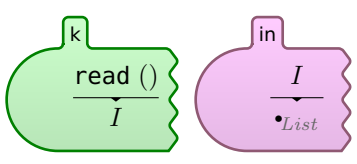
RULE $\dfrac{\texttt{if false then } — \texttt{ else } S2}{S2}$

RULE 

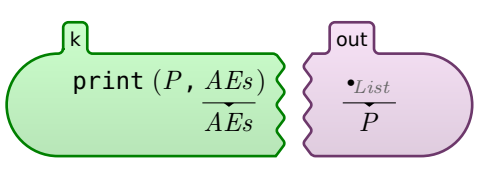
SYNTAX *KResult* ::= *String*

RULE $\dfrac{Str1 \texttt{ + } Str2}{Str1 +_{String} Str2}$

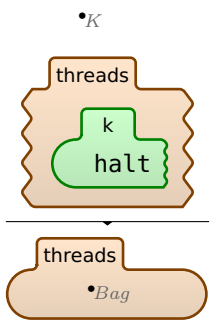
RULE  [supercool, transition]

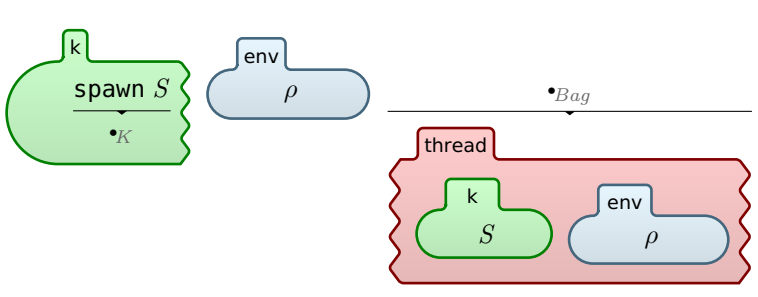
RULE  [transition]

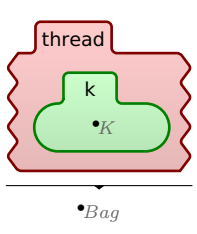
SYNTAX *Printable* ::= *Int*
| *String*

RULE  [transition]

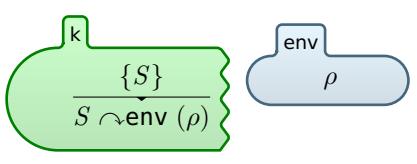
RULE $\dfrac{\texttt{print } (\bullet_{AExps})}{\bullet_K}$ [structural]

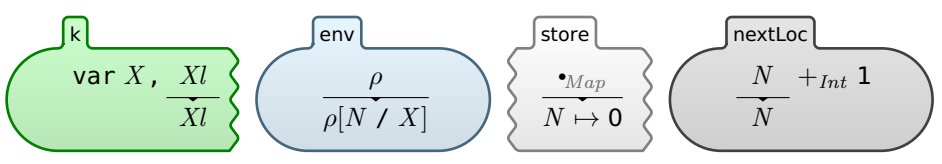
RULE 

RULE 

RULE  [structural]

RULE $\dfrac{\{\}}{\bullet_K}$ [structural]

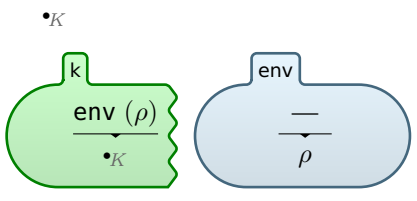
RULE  [structural]

RULE  [structural]

RULE $\dfrac{\texttt{var } \bullet_{Ids}}{\bullet_K}$ [structural]

SYNTAX K ::= `env` `(`*Map*`)`

RULE $\dfrac{\texttt{env } (—) \curvearrowright \texttt{env } (—)}{\bullet_K}$ [structural]

RULE  [structural]

END MODULE