Sintaxis del lenguaje TINY

Ignacio Gago Padreny

programa $\longrightarrow$ *secuencia-sent*
secuencia-sent $\longrightarrow$ *secuencia-sent* ***;*** *sentencia*
| ***newblock*** *secuencia-sent* ***;*** *sentencia* ***endblock*** | *sentencia*
sentencia $\longrightarrow$ *sent-if* | *sent-repeat* | *sent-assign* | *sent-read* | *sent-write*
| *sent-declare*
sent-if $\longrightarrow$ ***if*** *exp* ***then*** *secuencia-sent* ***end***
| ***if*** *exp* ***then*** *secuencia-sent* ***else*** *secuencia-sent* ***end***
sent-repeat $\longrightarrow$ ***repeat*** *secuencia-sent* ***until*** *exp*
sent-assign $\longrightarrow$ ***identificador :=*** *exp*
sent-read $\longrightarrow$ ***read identificador***
sent-write $\longrightarrow$ ***write*** *exp*
sent-declare $\longrightarrow$ *type* ***identificador***
type $\longrightarrow$ ***int*** | ***bool***
exp $\longrightarrow$ *exp-simple op-comp exp-simple* | *exp-simple*
op-comp $\longrightarrow$ $<$ | $=$
exp-simple $\longrightarrow$ *exp-simple op-arit term* | *term*
op-arit $\longrightarrow$ $+$ | $-$
term $\longrightarrow$ *term op-mul factor* | *factor*
op-mul $\longrightarrow$ $*$ | $/$
factor $\longrightarrow$ ***(*** *exp* ***)*** | ***number*** | ***identificador*** | ***true*** | ***false***

Ejemplo 1.
read u;
read v;
if $u < v$ then
    $min := u$
else $min := v$
write min

Ejemplo 2.
read x;
if $0 < x$ then
    $fact := 1$;
    repeat
        $fact := fact * x$;
        $x := x - 1$
    until $x = 0$;

write $fact$
end