

<program> -> begin <stmt_list> end

<stmt_list> -> <stmt>
 | <stmt> <stmt_list>

<stmt> -> <assign_stmt>
 | <comment_stmt>
 | <def_stmt>

<def_stmt> -> <data_types> <identifiers>

<data_types> -> FLOAT
 | BOOLEAN
 | INTEGER
 | WIDTH
 | HEIGHT
 | STROKE_WIDTH
 | DEF_WIDTH
 | DEF_HEIGHT
 | RECTANGLE
 | LINE
 | OVAL
 | COMPOSITE_SHAPE
 | SHAPE
 | PARAMETER
 | LOCATION
 | COLOR
 | SET
 | DIRECTION
 | IDENTIFIER
 | CSHAPE

<identifiers> -> <identifier>
 | <identifier> <assign_stmt>
 | <identifier> <function_callers>

<assign_stmt> -> '=' <cshape>

<cshape> -> IDENTIFIER '+' IDENTIFIER
 | IDENTIFIER '+' IDENTIFIER '+' IDENTIFIER
 | IDENTIFIER '+' IDENTIFIER '+' IDENTIFIER '+' IDENTIFIER

<function_callers> -> IDENTIFIER "DRAW"
 | IDENTIFIER "FILLSTATE"
 | IDENTIFIER "FILLCOLOR"

<logic_stmt> -> <expr>
 | <expr> <logical_op>
 | <expr> <logical_op> <expr>

<comment_stmt> -> '/' '/' <stmt_list>

<expr> -> IDENTIFIER
| <function_callers>
| WIDTH
| HEIGHT
| STROKE_WIDTH
| DEF_WIDTH
| DEF_HEIGHT
| RECTANGLE
| LINE
| OVAL
| COMPOSITE_SHAPE
| SHAPE
| PARAMETER
| LOCATION
| COLOR
| SET
| DIRECTION

<logical_op> -> '==' | '!=' | '<' | '>' | '<=' | '>=' | 'and' | 'or' | '->' | '*' | '|' | ':' | '!'