

<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

<identifiers> -> <identifier>  
                  | <identifier> <assign\_stmt>

<assign\_stmt> -> '=' '(' '  
                  | '=' '(' IDENTIFIER ')'  
                  | '=' '(' IDENTIFIER, IDENTIFIER, IDENTIFIER ')'  
                  | '=' '(' IDENTIFIER, IDENTIFIER, IDENTIFIER, IDENTIFIER ')'  
                  | '=' '(' INTEGER, INTEGER ')'  
                  | '=' '(' IDENTIFIER, IDENTIFIER, IDENTIFIER, BOOLEAN, INTEGER ')'  
                  | '=' '{ INTEGER, INTEGER, INTEGER, INTEGER }'  
                  | '=' '{ IDENTIFIER, IDENTIFIER, IDENTIFIER, IDENTIFIER }'  
                  | '=' '(' INTEGER, INTEGER, INTEGER, FLOAT ')'

<logic\_stmt> -> < expr >  
                  | <expr> <logical\_op>  
                  | <expr> <logical\_op> <expr>

<comment\_stmt> -> '/' '/' <stmt\_list>

<expr> -> IDENTIFIER  
          | WIDTH

I HEIGHT  
I STROKE\_WIDTH  
I DEF\_WIDTH  
I DEF\_HEIGHT  
I RECTANGLE  
I LINE  
I OVAL  
I COMPOSITE\_SHAPE  
I SHAPE  
I PARAMETER  
I LOCATION  
I COLOR  
I SET  
I DIRECTION

<logical\_op> -> '==' | '!=' | '<' | '>' | '<=' | '>=' | 'and' | 'or' | '->' | '\*' | '/' | ':' | '!'