

<PROGRAM> : <STMT_LIST>

<STMT_LIST> : <STMT_LIST> "," <STMT>
| <STMT>

<STMT> : <FUNCTION_DEF>
| <FUNCTION_CALL>
| <CONDITION>
| <REPETITION>
| <BREAK>
| <RETURN>
| <ASSIGN>
| <OUTPUT>
| <INPUT>
| <EXPR>

<FUNCTION_DEF> : "fun" <IDENTIFIER> <STMT_LIST> "endfun"
| "fun" <IDENTIFIER> "(" <PARA_LIST> ")" <STMT_LIST> "endfun"

<PARA_LIST> : String "," <PARA_LIST>
| String

<FUNCTION_CALL> : "call" <IDENTIFIER> "(" <CALL_LIST> ")"
| "call" <IDENTIFIER>

<CALL_LIST> : <EXPR> "," <CALL_LIST>
| <EXPR>

<CONDITION> : "if" "(" <COMP_EXPR> ")" <STMT_LIST> <ELSE_CON>

<ELSE_CON> : "elseif" "(" <COMP_EXPR> ")" <STMT_LIST> <ELSE_CON>
| "else" <STMT_LIST> "endif"
| "endif"

<REPETITION> : "loop" "(" <RANGE_EXPR> ")" <STMT_LIST> "endloop"
| "loop" "(" <COMP_EXPR> ")" <STMT_LIST> "endloop"
| "loop" "(" <IDENTIFIER> "in" <EXPR> ")" <STMT_LIST>
"endloop"

<RANGE_EXPR> : <ASSIGN> "upto" <EXPR>
| <ASSIGN> "downto" <EXPR>

<COMP_EXPR> : <EXPR> <REAL_OPER> <EXPR>

<BREAK> : "break"

<RETURN> : "return" <EXPR>
| "return"

<ASSIGN> : <IDENTIFIER> "=" <EXPR>

	<IDENTIFIER> "add" <EXPR>
<OUTPUT>	: "print" "(" <MULT_OUTPUT> ")" "print" <EXPR>
<MULT_OUTPUT>	: <EXPR> "," <MULT_OUTPUT> <EXPR>
<INPUT>	: "input" <IDENTIFIER>
<EXPR>	: <EXPR> <ADD_OPER> <TERM> <TERM>
<TERM>	: <TERM> <MULTI_OPER> <MODULU> <MODULU>
<MODULU>	: <MODULU> <MOD_OPER> <FACTOR> <FACTOR>
<FACTOR>	: <DIGIT> <STRING> <FUNCTION_CALL> <CONTAINER> <IDENTIFIER> "(" <EXPR> ")"
<ADD_OPER>	: "+" "-"
<MULTI_OPER>	: "*" "/"
<MOD_OPER>	: "%"
<REAL_OPER>	: "==" "!=" ">" "<" ">=" "<="
<STRING>	: "/"[w\W]*"/
<CONTAINER>	: <IDENTIFIER> "[" <DIGIT> "]" "[" <LIST> "[" <DIGIT> "]" "[" <LIST> "[" "]" "{" "}" <IDENTIFIER> "[" String "]" "=" <EXPR> <IDENTIFIER> "[" String "]"

<LIST> : <EXPR> "," <LIST>
| <EXPR> "]"

<IDENTIFIER> : <LETTER>
| <LETTER> (<LETTER> | <DIGIT>)
| <LETTER> <IDENTIFIER>

<LETTER> : [a-zA-Z_]+

<DIGIT> : Integer