VSL specification

1 Grammar

program → function_list
function_list → function | function_list function
statement_list → statement | statement_list statement
print_list → print_item | print_list print_item
expression_list → expression | expression_list ', ' expression
variable_list → variable | variable_list ', ' variable
argument_list → expression_list | ε
parameter_list → variable_list | ε
declaration_list → declaration_list declaration | ε
function → FUNC variable '(' parameter_list ')' statement

statement→ assignment_statement | return_statement | print_statement
| null_statement | if_statement | while_statement | block

block → '{' declaration_list statement_list '}'
assignment_statement → variable ':' '=' expression
return_statement → RETURN expression
print_statement → PRINT print_list
null_statement → CONTINUE
if_statement → IF expression THEN statement FI
| IF expression THEN statement ELSE statement FI
while_statement → WHILE expression DO statement DONE

expression → expression '+' expression | expression '-' expression |
expression '*' expression | expression '/' expression | '-' expression |
'(' expression ')' | integer | variable | variable '(' argument_list ')'

declaration → VAR variable_list
variable → letter | variable alphanumeric
integer → digit | integer digit
print_item → expression | text
text → text_character | text_character text
text_character → printable_character | escaped_character
printable_character → *any printable ASCII character*
escaped_character → \n

alphanumeric → letter | digit
digit → '0' | '1' | $\cdots$ | '9'
letter → 'a' | 'b' | $\cdots$ | 'z'