

[BNF]

START -> PROGRAM

PROGRAM -> program identifier COMPOUND_STMT

COMPOUND_STMT -> begin STMTS end

STMTS -> STMT STMTS | STMT

STMT -> CONDITIONAL_STMT | WHILE_STMT | FOR_STMT | SIMPLE_STMT ;

CONDITIONAL_STMT -> if EXPRESSION COMPOUND_STMT ELSE_IF_STMT | if EXPRESSION

COMPOUND_STMT ELSE_IF_STMT else COMPOUND_STMT

ELSE_IF_STMT -> else_if EXPRESSION COMPOUND_STMT ELSE_IF_STMT | "

WHILE_STMT -> while EXPRESSION COMPOUND_STMT

FOR_STMT -> for (DECLARATION_STMT ; EXPRESSION ; EXPRESSION) COMPOUND_STMT

SIMPLE_STMT -> ASSIGNMENT_STMT | PRINT_STMT | DECLARATION_STMT | BREAK_STMT |

DISPLAY_STMT

ASSIGNMENT_STMT -> identifier = EXPRESSION

PRINT_STMT -> print_line (string_literal) | print_line (identifier)

DECLARATION_STMT -> TYPE VARIABLE_DECLARATION VARIABLE_DECLARATIONS

VARIABLE_DECLARATIONS -> , VARIABLE_DECLARATION VARIABLE_DECLARATIONS | "

VARIABLE_DECLARATION -> identifier | identifier = EXPRESSION

BREAK_STMT -> break

DISPLAY_STMT -> display (string_literal)

EXPRESSION -> SIMPLE_EXPRESSION | SIMPLE_EXPRESSION RELATIONAL_OPERATOR

SIMPLE_EXPRESSION

SIMPLE_EXPRESSION -> SIMPLE_EXPRESSION ADDING_OPERATOR TERM | TERM

TERM -> TERM MULTIPLYING_OPERATOR FACTOR | FACTOR

FACTOR -> identifier | number_literal | (EXPRESSION) | identifier ++

RELATIONAL_OPERATOR -> < | > | = | ==

ADDING_OPERATOR -> + | -

ADDING_OPERATOR -> * | /

MULTIPLYING_OPERATOR -> * | /

TYPE -> int | integer

[BNF]

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PROGRAM -> program identifier COMPOUND_STMT

COMPOUND_STMT -> begin STMTS end

STMTS -> STMT STMTS

STMTS -> STMT

STMT -> CONDITIONAL_STMT

STMT -> WHILE_STMT

STMT -> FOR_STMT

STMT -> SIMPLE_STMT ;

CONDITIONAL_STMT -> if EXPRESSION COMPOUND_STMT ELSE_IF_STMT

CONDITIONAL_STMT -> if EXPRESSION COMPOUND_STMT ELSE_IF_STMT else

COMPOUND_STMT

ELSE_IF_STMT -> else_if EXPRESSION COMPOUND_STMT ELSE_IF_STMT

ELSE_IF_STMT -> "

WHILE_STMT -> while EXPRESSION COMPOUND_STMT

FOR_STMT -> for (DECLARATION_STMT ; EXPRESSION ; EXPRESSION) COMPOUND_STMT

SIMPLE_STMT -> ASSIGNMENT_STMT

SIMPLE_STMT -> PRINT_STMT

SIMPLE_STMT -> DECLARATION_STMT

SIMPLE_STMT -> BREAK_STMT

SIMPLE_STMT -> DISPLAY_STMT

ASSIGNMENT_STMT -> identifier = EXPRESSION

PRINT_STMT -> print_line (string_literal)

PRINT_STMT -> print_line (identifier)

DECLARATION_STMT -> TYPE VARIABLE_DECLARATION VARIABLE_DECLARATIONS

VARIABLE_DECLARATIONS -> , VARIABLE_DECLARATION VARIABLE_DECLARATIONS

VARIABLE_DECLARATIONS -> "

VARIABLE_DECLARATION -> identifier

VARIABLE_DECLARATION -> identifier = EXPRESSION

BREAK_STMT -> break

DISPLAY_STMT -> display (string_literal)

EXPRESSION -> SIMPLE_EXPRESSION

EXPRESSION -> SIMPLE_EXPRESSION RELATIONAL_OPERATOR SIMPLE_EXPRESSION

SIMPLE_EXPRESSION -> SIMPLE_EXPRESSION ADDING_OPERATOR TERM

SIMPLE_EXPRESSION -> TERM

TERM -> TERM MULTIPLYING_OPERATOR FACTOR

TERM -> FACTOR

FACTOR -> identifier

FACTOR -> number_literal

FACTOR -> (EXPRESSION)

FACTOR -> identifier ++

RELATIONAL_OPERATOR -> <

RELATIONAL_OPERATOR -> >

RELATIONAL_OPERATOR -> =
RELATIONAL_OPERATOR -> ==
ADDING_OPERATOR -> +
ADDING_OPERATOR -> -
MULTIPLYING_OPERATOR -> *
MULTIPLYING_OPERATOR -> /
TYPE -> int
TYPE -> integer