

START \rightarrow FUNC FUNCS

FUNCS \rightarrow FUNC FUNCS $| \epsilon$

EXP \rightarrow T_ID = EXP1; $|$ FOR EXP $|$ DEF EXP $|$ IF EXP $|$ PRINT EXP $|$ T_RETURN EXP1; EXP $|$ T_BREAK; EXP $|$ T_CONTINUE; EXP $|$ T_COMMENT $|$ EXP $| \epsilon$

DEF \rightarrow TYPE VAR ARRAY; $|$ TYPE VAR =

TYPE \rightarrow T_INT $|$ T_CHAR $|$ T_BOOL

VAR \rightarrow T_ID $|$ T_ID = EXP1

ARRAY \rightarrow [T_DECIMAL] $|$ [T_HEXADECIMAL] $|$ [T_ID] $| \epsilon$

FUNC \rightarrow TYPE T_ID (PARAMS) {EXP}

PARAMS \rightarrow PARAM MORE_PARAMS $| \epsilon$

PARAM \rightarrow T_INT T_ID $|$ T_CHAR T_ID $|$ T_BOOL T_ID

MORE_PARAMS \rightarrow ,PARAM PARAMS $| \epsilon$

FOR \rightarrow T_FOR (DEF_FOR) {EXP}

DEF_FOR \rightarrow TYPE VAR; RELEXP;EXP1

EXP1 \rightarrow OPERAND + EXP1 $|$ OPERAND - EXP1 $|$ TERM

TERM \rightarrow OPERAND * TERM $|$ OPERAND / TERM $|$ OPERAND

OPERAND \rightarrow T_ID CALL_FUNC $|$ T_DEC $|$ T_HEX $|$ T_STRING $|$ T_TRUE $|$ T_FALSE $|$ (EXP1) $|$ T_CHARACTER $|$ T_STRING

CALL_FUNC \rightarrow (CALL_PARAMS); $| \epsilon$

CALL_PARAMS \rightarrow CALL_PARAM $|$ CALL_MORE_PARAMS

CALL_PARAM \rightarrow OPERAND

CALL_MORE_PARAMS \rightarrow ,CALL_PARAM CALL_MORE_PARAMS $| \epsilon$

IF \rightarrow T_IF(RELEXP) { EXP } ELSE

$\text{RELEXP} \rightarrow \text{EXP1 RELOP RELEXP} \mid \text{EXP1 RELOP T_TRUE} \mid \text{EXP1 RELOP T_FALSE} \mid \text{EXP1}$

$\text{RELOP} \rightarrow \&\& \mid \mid \mid \mid \neq \mid ==$

$\text{ELSE} \rightarrow \text{T_ELSE} \{ \text{EXP} \} \mid \varepsilon$

$\text{PRINT} \rightarrow \text{T_PRINT} (\text{T_STRING} , \text{PARAMS_PRINT});$

$\text{PARAMS_PRINT} \rightarrow \text{EXP1} , \text{PARAMS_PRINT} \mid \text{EXP1}$