

$\langle Program \rangle ::= \langle Declarations \rangle \langle Body \rangle$

$\langle Body \rangle ::= \text{'BEGIN'} \langle InstructionList \rangle \text{'END'}$

$\langle Declaration \rangle ::= \langle id \rangle$
 $\quad | \langle id \rangle \text{'['} \langle num \rangle \text{'}'}$
 $\quad | \langle id \rangle \text{'['} \langle num \rangle \text{'}' '['} \langle num \rangle \text{'}'}$

$\langle Declarations \rangle ::= \text{'VAR'} \langle DeclarationsList \rangle \text{';'}$

$\langle DeclarationsList \rangle ::= \langle Declaration \rangle$
 $\quad | \langle DeclarationsList \rangle \text{' ,' } \langle Declaration \rangle$

$\langle Constant \rangle ::= \langle num \rangle$

$\langle Term \rangle ::= \langle Constant \rangle >$
 $\quad | \langle Variable \rangle$
 $\quad | \langle id \rangle \text{'['} \langle ExpAdditiv \rangle \text{'}' '['} \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle Exp \rangle \text{'}'}$
 $\quad | \text{'NOT'} \langle Exp \rangle$

$\langle Variable \rangle ::= \langle id \rangle$
 $\quad | \langle id \rangle \text{'['} \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \langle id \rangle \text{'['} \langle ExpAdditiv \rangle \text{'}' '['} \langle ExpAdditiv \rangle \text{'}'}$

$\langle ExMultipl \rangle ::= \langle Term \rangle$
 $\quad | \langle ExMultipl \rangle \text{'*'} \langle Term \rangle$
 $\quad | \langle ExMultipl \rangle \text{'/'} \langle Term \rangle$
 $\quad | \langle ExMultipl \rangle \text{'\%' } \langle Term \rangle$
 $\quad | \langle ExMultipl \rangle \text{'AND'} \langle Term \rangle$

$\langle ExpAdditiv \rangle ::= \langle ExMultipl \rangle$
 $\quad | \langle ExpAdditiv \rangle \text{'+'} \langle ExMultipl \rangle$
 $\quad | \langle ExpAdditiv \rangle \text{'-'} \langle ExMultipl \rangle$
 $\quad | \langle ExpAdditiv \rangle \text{'OR'} \langle ExMultipl \rangle$

$\langle Exp \rangle ::= \langle ExpAdditiv \rangle$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'>' } \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'<' } \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'>=' } \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'<=' } \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'==' } \langle ExpAdditiv \rangle \text{'}'}$
 $\quad | \text{'('} \langle ExpAdditiv \rangle \text{'!=' } \langle ExpAdditiv \rangle \text{'}'}$

$\langle Else \rangle$::= $\langle \rangle$
 | 'ELSE' '' $\langle InstructionsList \rangle$ ''

$\langle Attribution \rangle$::= $\langle Variable \rangle$ '=' $\langle ExpAdditiv \rangle$

$\langle Instruction \rangle$::= $\langle Attribution \rangle$ ';'
 | 'READ' $\langle Variable \rangle$ ';'
 | 'WRITE' $\langle ExpAdditiv \rangle$ ';'
 | 'WRITE' $\langle string \rangle$ ';'
 | 'IF' '(' $\langle Exp \rangle$ ')' '{' $\langle InstructionsList \rangle$ '}' $\langle Else \rangle$
 | 'WHILE' '(' $\langle Exp \rangle$ ')' '{' $\langle InstructionsList \rangle$ '}'
 | 'DO' '{' $\langle InstructionsList \rangle$ '}' 'WHILE' '(' $\langle Exp \rangle$ ')' ';' ;

$\langle InstructionList \rangle$::= $\langle Instruction \rangle$
 | $\langle InstructionList \rangle$ $\langle Instruction \rangle$