

Grammar

chip	$:= \text{line}^{20}$
line	$:= \text{multipleStatements} \mid \text{comment} \mid \text{empty}$
multipleStatements	$:= \text{singleStatement} (\text{'_'} \text{singleStatement})^*$
singleStatement	$:= \text{ifStatement} \mid \text{varAssignment} \mid \text{expression} \mid \text{goto}$
ifStatement	$:= \text{'if_'} \text{expression} \text{'_then_'} \text{multipleStatements} (\text{'_else_'} \text{multipleStatements})? \text{'_end'}$
varAssignment	$:= \text{var} \text{'='} \text{expression} \mid \text{arithmeticalAssignment}$
var	$:= \text{'.'} \text{varName} \mid \text{varName}$
varName	$:= \text{alphabeticalChar} \text{alphanumericChar}^*$
alphabeticalChar	$:= \{\text{'a'} - \text{'z'}, \text{'A'} - \text{'Z'}\}$
alphanumericChar	$:= \text{alphabeticalChar} \cup \text{numericalChar}$
numericalChar	$:= \{\text{'0'} - \text{'9'}\}$
arithmeticalAssignment	$:= \text{var} \text{arithmeticalOperator} \text{'='} \text{expression}$
expression	$:= \text{'('} \text{expression} \text{'})' \mid \text{var} \mid \text{const} \mid \text{arithmeticOperation} \mid \text{logicalOperation}$
const	$:= \text{'\"'} \text{everyChar}^+ \text{'\"'} \mid \text{number}$
number	$:= (-)^? \text{numericalChar}^+ (\text{'.'} \text{numericalChar}^{1-4})?$
everyChar	$:= \text{whatever the supported charset supports}$
arithmeticOperation	$:= \text{expression} \text{arithmeticalOperator} \text{expression} \mid \text{arithmeticKeyword} \text{expression} \mid \text{expression} \text{'!'}$
arithmeticalOperator	$:= \text{'+'} \mid \text{'-'} \mid \text{'*'} \mid \text{'/'} \mid \text{'\%'}$
arithmeticKeyword	$:= \text{'ABS'} \mid \text{'SQRT'} \mid \text{'SIN'} \mid \text{'COS'} \mid \text{'TAN'} \mid \text{'ARCSIN'} \mid \text{'ARCCOS'} \mid \text{'ARCTAN'}$
logicalOperation	$:= \text{expression} \text{logicalOperator} \text{expression}$
logicalOperator	$:= \text{'<'} \mid \text{'>'} \mid \text{'<='} \mid \text{'>='} \mid \text{'!='} \mid \text{'=='}$
comment	$:= \text{'\\'} \text{everyChar}^*$