

Assignment 2

Syntax

program = {statement}
declarationList = declaration | declaration "\n" declarationList
declaration = "var" identifier ":" type | "const" identifier ":" type

Types

simpleType = "int" | "real" | "char" | "bool"
arrayDeclaration = "[" dataType "]"
type = simpleType | arrayDeclaration

Statements

compoundStatement = "{" statementList "}"
statementList = statement | statement "\n" statementList
statement = simpleStatement | structStatement

simpleStatement = assignStatement | ioStatement | declarationList
assignStatement = identifier "=" expression
ioStatement = "read" "(" identifier ")" | "fread" "(" identifier ", " filename ")"
 | "write" "(" identifier ")" | "fwrite" "(" identifier ", " file_name ")"
structStatement = compoundStatement | ifStatement | whileStatement

ifStatement = "if" compoundCondition compoundStatement ["else" compoundStatement]
whileStatement = "while" compoundCondition compoundStatement

Expressions

expression = expression "+" term | expression "-" term | term
term = term "*" factor | term "/" factor | factor
factor = identifier | numericConstant

Conditions

condition = expression relation expression
compoundCondition = condition | "(" condition ")" AND "(" conditionList ")"
 | "(" condition ")" OR "(" conditionList ")"

Relations

relation = "<" | "<=" | "==" | ">=" | ">" | "!="