

Grammar for Mini Language

Program \rightarrow **Function Program** | ϵ

Function \rightarrow "function" "identifier" ";" "beginparams" **FunctionDec** "endparams" "beginlocals"

FunctionDec "endlocals" "beginbody" **MultipleStatements** "endbody"

Declaration \rightarrow **Identifier** ":" "integer" |

Identifier ":" "array" "[" "number" "]" "of" "integer"

FunctionDec \rightarrow **Declaration** ";" **FunctionDec** | ϵ

Identifier \rightarrow "identifier" "," **Identifier** | "identifier"

Statement \rightarrow **Var** "!=" **Expression** |

"if" **Bool-Expr** "then" **MultipleStatements** "endif" |

"if" **Bool-Expr** "then" **MultipleStatements** "else" **MultipleStatements** "endif" |

"while" **Bool-Expr** "beginloop" **MultipleStatements** "endloop" |

"do" "beginloop" **MultipleStatements** "endloop" "while" **Bool-Expr**

"for" **Var** "!=" "number" ";" **Bool-Expr** ";" **Var** "!=" **Expression** "beginloop"
MultipleStatements "endloop" |

"read" **MultVar** |

"write" **MultVar** |

"continue" |

"return" **Expression**

MultipleStatements \rightarrow **Statement** ";" **MultipleStatements** | **Statement** ";"

Bool-Expr \rightarrow **Relation-And-Expr** | **Bool-Expr** "or" **Relation-And-Expr**

Relation-And-Expr \rightarrow **Relation-Expr** |

Relation-Expr "and" **Relation-And-Expr**

Relation-Expr \rightarrow "not" **Relation-Expression** | **Relation-Expression**

Relation-Expression \rightarrow **Expression** **Comp** **Expression** |

"true" |

"false" |

"(" **Bool-Expr** ")"

Comp \rightarrow "=" | "<" | ">" | "<>" | "<=" | ">="

Expression \rightarrow **Multiplicative-Expr** |

Multiplicative-Expr "+" **Expression** |

Multiplicative-Expr "-" **Expression**

Expressions \rightarrow **Expression** "," **Expressions** | ϵ

Multiplicative-Expr \rightarrow **Multiplicative-Expr** |

Term |

Term "*" **Multiplicative-Expr** |

Term "/" **Multiplicative-Expr** |

Term "%" **Multiplicative-Expr**

Term \rightarrow **Var** |

"-" **Var** |

"number" |

"-" "number" |

"(" **Expression** ")" |

"-" "(" **Expression** ")" |

"identifier" "(" **Expressions** ")"

MultVar \rightarrow **Var** | **Var** "," **MultVar**

Var \rightarrow "identifier" |

"identifier" "[" **Expression** "]"