

## Grammar Rules

Program	=>	<b><u>program</u></b> [DeclList] [FuncList] <b><u>begin</u></b> [StmtList] <b><u>end</u></b> .
DeclList	=>	Decl {Decl}
Decl	=>	Type VarList ;
FuncList	=>	Func {Func}
Func	=>	<b><u>function</u></b> Ident ( [ParamList] ) : Type ; [DeclList] <b><u>begin</u></b> [StmtList] <b><u>end</u></b>
ParamList	=>	Param { , Param }
Param	=>	Type Ident
Type	=>	<b><u>int</u></b>   <b><u>real</u></b>   <b><u>string</u></b>
VarList	=>	Ident { , Ident }
StmtList	=>	Stmt {Stmt}
Stmt	=>	Assign   Read   Write   If   While   Do   Return
Assign	=>	Ident := Expr ;
Read	=>	<b><u>read</u></b> ( VarList ) ;
Write	=>	<b><u>write</u></b> ( Expr {Expr} ) ;
If	=>	<b><u>if</u></b> ( Cond ) <b><u>begin</u></b> StmtList <b><u>end</u></b> { <b><u>elsif</u></b> ( Cond ) <b><u>begin</u></b> StmtList <b><u>end</u></b> } { <b><u>else begin</u></b> StmtList <b><u>end</u></b> }
While	=>	<b><u>while</u></b> ( Cond ) <b><u>begin</u></b> [StmtList] <b><u>end</u></b>
Do	=>	<b><u>do</u></b> [StmtList] <b><u>until</u></b> ( Cond ) ;
Return	=>	<b><u>return</u></b> Expr ;
Cond	=>	Expr RelOp Expr
RelOp	=>	$\geq$   $\leq$   $\geq$   $\leq$   $=$   $<>$
Expr	=>	Term { ( +   - ) Term }
Term	=>	Factor { ( *   / ) Factor }
Factor	=>	Ident   IntConst   RealConst   StrConst   ( Expr )   FuncCall
FuncCall	=>	Ident [ ArgList ]
ArgList	=>	Expr { , Expr }

terminals (required)

Keyword

Type

Identifier

Int Const

Real Const

Str Const

Rel Op

Operator

## Rules for Variables and Constants

Ident	=>	Alpha {Alpha   Digit   _}
Alpha	=>	character in range 'a'..'z' or 'A'..'Z'
Digit	=>	character in range '0'..'9'
IntConst	=>	Digit {Digit}
RealConst	=>	IntConst . IntConst
StrConst	=>	" {KybdChar} "
KybdChar	=>	any character typed into the source code file