

$\langle \text{program} \rangle \rightarrow \langle \text{function} \rangle [ \langle \text{function} \rangle ]$   
 $\langle \text{function} \rangle \rightarrow \text{int } \langle \text{identifier} \rangle ( \langle \text{parameter-list} \rangle ) \langle \text{compound-statement} \rangle$   
 $\langle \text{function} \rangle \rightarrow \text{int } \langle \text{identifier} \rangle ( \langle \text{parameter-list} \rangle );$   
 $\langle \text{parameter-list} \rangle \rightarrow [ \langle \text{parameter} \rangle [, \langle \text{parameter} \rangle ] ]$   
 $\langle \text{parameter} \rangle \rightarrow \text{int } \langle \text{declarator} \rangle$   
 $\langle \text{declarator} \rangle \rightarrow \langle \text{identifier} \rangle [ [ \langle \text{number} \rangle ] ]$   
 $\langle \text{compound-statement} \rangle \rightarrow \{ \langle \text{declaration-list} \rangle \langle \text{statement-list} \rangle \}$   
 $\langle \text{declaration-list} \rangle \rightarrow [ \langle \text{declaration} \rangle ]$   
 $\langle \text{declaration} \rangle \rightarrow \text{int } \langle \text{declarator-list} \rangle ;$   
 $\langle \text{declarator-list} \rangle \rightarrow \langle \text{declarator} \rangle [ , \langle \text{declarator} \rangle ]$   
 $\langle \text{statement-list} \rangle \rightarrow [ \langle \text{statement} \rangle ]$   
 $\langle \text{statement} \rangle \rightarrow \langle \text{assignment-statement} \rangle | \langle \text{compound-statement} \rangle | \langle \text{if-statement} \rangle |$   
 $\quad \langle \text{while-statement} \rangle | \langle \text{return-statement} \rangle | \langle \text{read-statement} \rangle |$   
 $\quad \langle \text{write-statement} \rangle | \langle \text{writeln-statement} \rangle$   
 $\langle \text{assignment-statement} \rangle \rightarrow \langle \text{variable} \rangle = \langle \text{logical-expression} \rangle ;$   
 $\langle \text{logical-expression} \rangle \rightarrow [ ! ] \langle \text{conditional-expression} \rangle$   
 $\langle \text{conditional-expression} \rangle \rightarrow \langle \text{expression} \rangle [ \langle \text{relative-operator} \rangle \langle \text{expression} \rangle ]$   
 $\langle \text{expression} \rangle \rightarrow \langle \text{term} \rangle [ \langle \text{additive-operator} \rangle \langle \text{term} \rangle ]$   
 $\langle \text{term} \rangle \rightarrow \langle \text{factor} \rangle [ \langle \text{multiplicative-operator} \rangle \langle \text{factor} \rangle ]$   
 $\langle \text{factor} \rangle \rightarrow \langle \text{variable} \rangle | ( \langle \text{logical-expression} \rangle ) | \langle \text{identifier} \rangle ( \langle \text{argument-list} \rangle ) |$   
 $\quad \langle \text{number} \rangle$   
 $\langle \text{variable} \rangle \rightarrow \langle \text{identifier} \rangle [ [ \langle \text{logical-expression} \rangle ] ]$   
 $\langle \text{argument-list} \rangle \rightarrow [ \langle \text{logical-expression} \rangle [ , \langle \text{logical-expression} \rangle ] ]$   
 $\langle \text{if-statement} \rangle \rightarrow \text{if } ( \langle \text{logical-expression} \rangle ) \langle \text{statement} \rangle \text{ else } \langle \text{statement} \rangle$   
 $\langle \text{while-statement} \rangle \rightarrow \text{while } ( \langle \text{logical-expression} \rangle ) \langle \text{statement} \rangle$   
 $\langle \text{return-statement} \rangle \rightarrow \text{return } \langle \text{logical-expression} \rangle ;$   
 $\langle \text{read-statement} \rangle \rightarrow \text{read } \langle \text{variable} \rangle ;$   
 $\langle \text{write-statement} \rangle \rightarrow \text{write } \langle \text{logical-expression} \rangle ;$   
 $\langle \text{writeln-statement} \rangle \rightarrow \text{writeln} ;$   
 $\langle \text{relative-operator} \rangle \rightarrow == | != | < | > | <= | >=$   
 $\langle \text{additive-operator} \rangle \rightarrow + | -$   
 $\langle \text{multiplicative-operator} \rangle \rightarrow * | / | \%$   
 $\langle \text{identifier} \rangle \rightarrow \langle \text{alphabetic-character} \rangle [ \langle \text{alphabetic-numeric-character} \rangle ]$   
 $\langle \text{number} \rangle \rightarrow \langle \text{numeric-character} \rangle [ \langle \text{numeric-character} \rangle ]$