

first & follow

Non-Term	First	Follow
Program	{ Program }	{ \$ }
Identifiers-list	{ id }	{ :, ,) }
Identifiers-list'	{ id , ε }	{ :, ,) }
declarations	{ var , ε }	{ begin }
type	{ integer, real, array }	{ :, id ,) }
standard-type	{ integer, real }	{ :, id ,) }
subprogram-declarations	{ ε , procedure, function }	{ begin }
subprogram-declarations'	{ ε , procedure, function }	{ begin }
arguments	{ '(', ε }	{ :, , }
parameter list	{ id }	{) }

Parameters-list'	{ id, ε }	{ } }
Subprogram-head	{ function, procedure }	{ var, begin }
Subprogram-head		
Compound-statement	{ begin }	{ ;, \$, end, else }
Optional-statement	{ id, begin, while, if, ε }	{ end }
Statement-list	{ id, begin, if, while }	{ end }
Statement-list'	{ ' ' , ε }	{ end }
statement	{ id, begin, if, while }	{ ;, end, else }
variable	{ id }	{ assign }
variable'	{ ' ' , ε }	{ assign }
expression-list	{ +, -, id, num, (, not }	{ } }
expression-list'	{ ' ' , ε }	{ } }
expression	{ +, -, id, num, not, (}	{ ' ' ,) , then, do, ;, end, else }
expression'	{ xelp, ε }	{ ' ' ,) , then, do, ;, end, else, }

Simple-expression	{ +, -, id, num, not, (}	{ relop, else, ;, end, ' ',) , then,], do }
Simple-expression'	{ addop, ε }	{ relop,) , else, ;, ' ', ' ',) , then,], do, end }
term	{ id, num, not, (}	{ addop, relop, end, else, ;, ' ', ' ',], then,), do }
term'	{ mulop, ε }	{ addop, relop, ' ',], ;, then,), do, end, else }
factor	{ id, num, not, (}	{ mulop, addop, relop, ' ',], ;, then,), do, end, else }
factor'	{ (, ε }	{ mulop, addop, relop, ' ',], ;, then,), do, end, else }
sign	{ +, - }	{ id, num, not, (}
declarations'	{ var, ε }	{ begin }
Subprogram-declaration	{ procedure, function }	{ ; }
Procedure-statement	{ id }	{ ;, else, end }
Procedure-statement'	{ '(', ε }	{ ;, else, end }