

Program	::= VarDecl* ProcedureDecl*
VarDecl	::= 'int' ID ';'
ProcedureDecl	::= 'int' ID '(' <u>FormalParam</u> ') ' <u>Prepost</u> '{' Stmt* 'return' Expr ';' '}'
FormalParam	::= 'int' ID
Prepost	::= Requires Ensures CandidateRequires CandidateEnsures
Requires	::= 'requires' Expr
Ensures	::= 'ensures' Expr
Stmt	::= VarDecl AssignStmt AssertStmt AssumeStmt HavocStmt CallStmt IfStmt WhileStmt BlockStmt
AssignStmt	::= ID '=' Expr ';'
AssertStmt	::= 'assert' Expr ';'
AssumeStmt	::= 'assume' Expr ';'
HavocStmt	::= 'havoc' ID ';'
IfStmt	::= 'if' '(' Expr ')' BlockStmt ('else' BlockStmt)?
BlockStmt	::= '{' Stmt* '}'
Expr	::= Expr '?' Expr ':' Expr Expr BinaryOp Expr UnaryOp Expr <i>non-negative decimal integer</i> ID '(' Expr ')' '\result' '\old' '(' ID ')'
BinaryOp	::= ' ' '&&' ' ' '^' '&' '==' '!=' '<' '<=' '>' '>=' '<<' '>>' '+' '-' '*' '/' '%'
UnaryOp	::= '+' '-' '!' '~'
ID	::= <i>any legal C identifier</i>
CandidateRequires	::= 'candidate_requires' Expr
CandidateEnsures	::= 'candidate_ensures' Expr
CallStmt	::= ID '=' ID '(' <u>Expr</u> ') ' ';'
WhileStmt	::= 'while' '(' Expr ')' <u>LoopInvariant</u> BlockStmt
LoopInvariant	::= Invariant CandidateInvariant
Invariant	::= 'invariant' Expr
CandidateInvariant	::= 'candidate_invariant' Expr