

Funw@p Grammar

The grammar is not completely been transformed into a LL1 grammar in order to maintain a certain legibility of it, and of the Top-Down Parsing as well.

Therefore, we are going to manage these cases with the lookahead strategy.

Program	→ Main DeclList Main
Main	→ func Main () Block
DeclList	→ Decl DeclList ϵ
Decl	→ var VarDeclList Type ; func IDE FunDecl
TypeList	→ Type, TypeList Type
RType	→ Type ϵ
Type	→ int bool char url string fun (TypeList) RType
VarDeclList	→ VarDecl, VarDeclList VarDecl
VarDecl	→ IDE IDE = Exp
FunDecl	→ (Params) RType Block
Params	→ ParamList ϵ
ParamList	→ IDE Type , ParamList IDE Type
Block	→ { DeclList StmtList }
StmtList	→ Stmt StmtList ϵ
Stmt	→ IDE StmtIDE IDE = readln () ; Call ; IDE = async (Exp) ; IDE = dasync (IDE , Call) ; if (Exp) Block ElseStmt while (Exp) Block for (IDE = Exp ; Exp ; IDE StmtIDE) Block return Exp ; return func FunDecl ; println (PrintList) ;
StmtIDE	→ = Exp ; += Exp ; -= Exp ; ++ ; -- ;
PrintList	→ Exp, PrintList Exp
ElseStmt	→ else Block ϵ

Exp	→ AndExp MoreAndExps
MoreAndExps	→ AndExp ε
AndExp	→ UnaryRelExp MoreUnaryRelExps
MoreUnary- RelExps	→ && UnaryRelExp ε
UnaryRelExp	→ ! UnaryRelExp RelExp
RelExp	→ SumExp MoreSumExps
MoreSumExps	→ RelOp SumExp ε
RelOp	→ <= < > >= == !=
SumExp	→ Term MoreTerms
MoreTerms	→ + Term - Term ε
Term	→ UnaryExp MoreUnaryExps
MoreUnaryExps	→ * UnaryExp Term / UnaryExp ε
UnaryExp	→ - UnaryExp Factor
Factor	→ IDE (Exp) Call Const
Call	→ IDE (Args)
Args	→ ArgList ε
ArgList	→ Exp , ArgList Exp
Const	→ NUMBERC CHARC STRINGC URLC true false