1. 语言命名

ZNY-D

1. 文法

G[program]:

program → ExtDefList

ExtDefList→ExtDef ExtDefList | ε

ExtDef→Specifier ExtDecList ; |Specifier FucDec CompSt

Specifier→int | float | char

ExtDecList→VarDec | VarDec , ExtDecList

VarDec→ID | ID ArrayDec

ArrayDec→[INT] | [INT] ArrayDec

FucDec→ID ( VarList ) | ID ( )

VarList→ParamDec , VarList | ParamDec

ParamDec→Specifier VarDec

CompSt→{ DefList StmList }

StmList→Stmt StmList | ε

Stmt→Exp ; | CompSt | return Exp ;

| if ( Exp ) Stmt | if ( Exp ) Stmt Branch| while ( Exp ) Stmt | break;|continue;|

Branch →elif ( Exp ) Stmt Branch |else Stmt | ε

Def→Specifier DecList ;

DecList→Dec | Dec , DecList

Dec→VarDec | VarDec = Exp

Exp →Exp =Exp | Exp && Exp | Exp || Exp | Exp < Exp | Exp <= Exp

| Exp == Exp | Exp != Exp| Exp > Exp | Exp >= Exp

| Exp + Exp | Exp - Exp | Exp \* Exp | Exp / Exp | Exp % Exp| Exp += Exp| Exp -= Exp | Exp \*= Exp | Exp /= Exp| Exp %= Exp| ++Exp| Exp++ | --Exp | Exp-- | ID | INT | FLOAT | CHAR| ( Exp ) | - Exp | ! Exp | ID ( Args ) | ID ( ) | IDArrayDec | ε

Args→Exp , Args | Exp

ID→[A-Za-z][A-Za-z0-9]\*

INT→[0-9]+

FLOAT→([0-9]\*\.[0-9]+)|([0-9]+\.)

CHAR→\’[^\n]\’