YACC中使用的上下文无关文法：

Program : ClassList

ClassList : ClassList ClassDef | ClassDef

VariableDef : Variable ';’

Variable : Type IDENTIFIER

Type : INT | VOID| BOOL| STRING| CLASS IDENTIFIER| Type '[' ']'

ClassDef : CLASS IDENTIFIER ExtendsClause '{' FieldList '}'

ExtendsClause : EXTENDS IDENTIFIER | /\* empty \*/

FieldList : FieldList VariableDef | FieldList FunctionDef | /\* empty \*/

Formals : VariableList | /\* empty \*/

VariableList : VariableList ',' Variable | Variable

FunctionDef : STATIC Type IDENTIFIER '(' Formals ')' StmtBlock | Type IDENTIFIER '(' Formals ')' StmtBlock

StmtBlock : '{' StmtList '}'

StmtList : StmtList Stmt | /\* empty \*/

Stmt : VariableDef | SimpleStmt ';' | IfStmt | WhileStmt | ForStmt| ReturnStmt ';' | PrintStmt ';'| BreakStmt ';'| StmtBlock

SimpleStmt : LValue '=' Expr | Call | /\* empty \*/

LValue : Expr '.' IDENTIFIER| IDENTIFIER | Expr '[' Expr ']'

Call : Expr '.' IDENTIFIER '(' Actuals ')'| IDENTIFIER '(' Actuals ')'

Expr :LValue | Call | Expr '+' Expr | Expr '-' Expr | Expr '\*' Expr | Expr '/' Expr| Expr '%' Expr | Expr EQUAL Expr| Expr NOT\_EQUAL Expr | Expr AND Expr| Expr OR Expr| Expr '<' Expr| Expr LESS\_EQUAL Expr | Expr '>' Expr| Expr GREATER\_EQUAL Expr| '(' Expr ')'| '-' Expr %prec '\*'| '!' Expr| READ\_INTEGER '(' ')'| READ\_LINE '(' ')'| NULL| LITERAL | THIS| INSTANCEOF '(' Expr ',' IDENTIFIER ')'| '(' CLASS IDENTIFIER ')' Expr| NEW IDENTIFIER '(' ')' | NEW Type '[' Expr ']'

Actuals : ExprList| /\* empty \*/

ExprList : ExprList ',' Expr | Expr

WhileStmt :WHILE '(' Expr ')' Stmt

ForStmt :FOR '(' SimpleStmt ';' Expr ';' SimpleStmt ')' Stmt

BreakStmt : BREAK

IfStmt : IF '(' Expr ')' Stmt ElseClause

ElseClause : ELSE Stmt| /\* empty \*/

ReturnStmt : RETURN Expr| RETURN

PrintStmt : PRINT '(' ExprList ')'