**CST-301 Principles of Programming Languages Lecture and Lab**

## C-- Grammar:

Program ------> VarDeclList FunDeclList

VarDeclList --> epsilon

VarDecl VarDeclList

VarDecl ------> Type **id** ;

Type **id** [ **num**] ;

FunDeclList --> FunDecl

FunDecl FunDeclList

FunDecl ------> Type **id** ( ParamDecList ) Block

ParamDeclList --> epsilon

ParamDeclListTail

ParamDeclListTail --> ParamDecl

ParamDecl, ParamDeclListTail

ParamDecl ----> Type **id**

Type **id**[]

Block --------> { VarDeclList StmtList }

Type ---------> **int**

**char**

StmtList -----> Stmt

Stmt StmtList

Stmt ---------> ;

Expr ;

**return** Expr ;

**read** **id** ;

**write** Expr ;

**writeln** ;

**break** ;

**if** ( Expr ) Stmt **else** Stmt

**while** ( Expr ) Stmt

Block

Expr ---------> Primary

UnaryOp Expr

Expr BinOp Expr

**id** = Expr

**id** [ Expr ] = Expr

Primary ------> **id**

**num**

( Expr )

**id** ( ExprList )

**id** [ Expr ]

ExprList -----> epsilon

ExprListTail

ExprListTail --> Expr

Expr , ExprListTail

UnaryOp ------> - **|** !

BinOp --------> + **|** - **|** \* **|** / **|** == **|** != **|** < **|** <= **|** > **|** >= **|** && **|** ||