C-- Programming Language Specification

Program	$\longrightarrow$	*VarDeclList FunDeclList*
VarDeclList	$\longrightarrow$	ϵ
		VarDecl VarDeclList
VarDecl	$\longrightarrow$	*Type* **id** ;
		Type **id** [**num**] ;
FunDeclList	$\longrightarrow$	*FunDecl*
		FunDecl FunDeclList
FunDecl	$\longrightarrow$	*Type* **id** (*ParamDeclList*) *Block*
ParamDeclList	$\longrightarrow$	ϵ
		ParamDeclListTail
ParamDeclListTail	$\longrightarrow$	*ParamDecl*
		ParamDecl, *ParamDeclListTail*
ParamDecl	$\longrightarrow$	*Type* **id**
		Type **id** [ ]
Block	$\longrightarrow$	{ *VarDeclList StmtList* }
Type	$\longrightarrow$	**int**
		char
StmtList	$\longrightarrow$	*Stmt*
		Stmt StmtList
Stmt	$\longrightarrow$	;
		Expr ;
		return *Expr* ;
		read **id** ;
		write *Expr* ;
		writeln ;
		break ;
		if (*Expr*) *Stmt* **else** *Stmt*
		while (*Expr*) *Stmt*
		Block
Expr	$\longrightarrow$	*Primary*
		UnaryOp Expr
		Expr BinOp Expr
		id = *Expr*
		id [*Expr*] = *Expr*
Primary	$\longrightarrow$	**id**
		num
		(*Expr*)
		id (*ExprList*)
		id [*Expr*]
ExprList	$\longrightarrow$	ϵ
		ExprListTail
ExprListTail	$\longrightarrow$	*Expr*
		Expr , *ExprListTail*
UnaryOp	$\longrightarrow$	− | !
BinOp	$\longrightarrow$	+ | − | * | /
		== | != | < | <= | > | >=
		&& | ||