**PRACTICAL # 11**

**OBJECT:**

CFG for Arithmetic Expressions

**THEORY:**

Arithmetic expressions are essential part of any programming language. A programming language provides operators to create arithmetic expressions.

The CFG for arithmetic expressions

<Exp> -> <L\_OR>

<L\_OR> -> <L\_AND><L\_OR’>

<L\_OR’> -> || <L\_AND> <L\_OR’>

<L\_AND> -> <R\_OP> <L\_AND’>

<L\_AND’> -> && <R\_OP><L\_AND’>

<R\_OP> -> <E><R\_OP’>

<R\_OP’> -> Rel\_OP <E><R\_OP’>

<E> -> <T> <E’>

<E’> -> P\_M <T><E’>

<T> -> <F><T’>

<T’> -> M\_D <F><T’>

<F> -> ID <Arg\_stX> <F’> | <Const><F’> | ( <Exp> )<F’> | ! <F>

<F’> -> <Arg\_List> | ε

<Const> -> int\_ct | ch\_ct | str\_ct | fl\_ct | bool\_ct

**ACTIVITIES**

**Activity 1**

Design expression CFG for your own language.

**REVIEW QUESTIONS**

1. What is an expression?
2. What are arithmetic operators?
3. What is a unary arithmetic operator ?