**Expressions**

* Composed of operators and operands
* Evaluate into a value

Some Operators:

* Unary
  + +A
  + –A
  + ++A
  + --A
  + A++
  + A--
* Binary
  + A+B
  + A-B
  + A\*B
  + A/B
  + A%B
  + A = B

**Precedence and Associativity**

* Precedence
  + Which comes first
* Associativity
  + Left to right or right to left
* Group the operator with the operands
* But do not enforce execution order completely

**Short Circuit**

* Enforces order of evaluation between LHS and RHS
* Compiler dependency
  + E.g. if(--j || i++ & --j)
    - LHS first, RHS MAYBE
    - Only apply to || and &&
* Expr1 && expr2
  + If exp1 evaluate to 0, exp2 is not done
  + If exp1 evaluate to 1, exp2 is then evaluate
* Expr1 || expr2
  + If exp1 evaluate to 1, exp2 is not done
  + If exp1 evaluate to 0, exp2 is then evaluate

**Ternary operator**

if(exp1) exp2  
else exp3

Rewrite to: exp1 ? exp2 : exp3

exp1 != 0 result is exp2 else exp3

**Precedence**

* Setting the priority of operation
* ++i , --i (pre increment)
  + Evaluate to the increment value of i
* i++ , i-- (post-increment)
  + Evaluate to the original value of i
  + Then increment itself

**L-Value**

* Refers to objects with a memory location

**R-Value**

* Temporary values
* Every C operator evaluate to an R value
* Will be discarded if not assign regardless