Pre-Increment vs Post-Increment

- **Pre-increment:**
  - Incremented value of variable is used in expression
  - int a=5;
  - cout<<++a;
- **Post-increment:**
  - Current value of variable is used in expression, and after that value in incremented.
  - int a=5;
  - int b=a++;
  - cout<<b;
  - Let's try to access a.

Pre-Decrement vs Post-Decrement

- **Pre-Decrement:**
  - Decremented value of variable is used in expression
  - int a=5;
  - cout<<--a;
- **Post-Decrement:**
  - Current value of variable is used in expression, and after that value in Decremented.
  - int a=5;
  - int b=a--;
  - cout<<b;
  - Let's try to access a.

Short hand Assignment

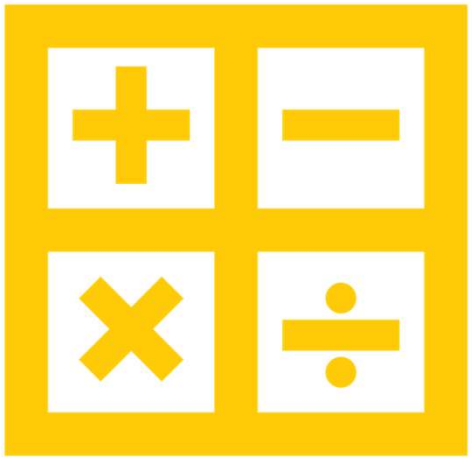
- int count=2;
- count+=2; //Equivalent to writing count=count+2;
- count*=2; //Equivalent to writing count=count*2;
- count-=2; //Equivalent to writing count=count-2;
- count/=2 //Equivalent to writing count=count/2;
- count%=2 ////Equivalent to writing count=count%2;

Type Conversion(Casting)

- The process of converting one data type to another
- Two Types:
  - Implicit (Done by Compiler/Automatic)
  - Explicit (Done by Programmer/Manual)

When is the casting actually performed?

- Arithmetic operations are normally performed over the same types of operands
- But when we have operands of different data, like one operand is character and other one is integer
  - C++ will convert the one operand to be the type of other and then evaluate the expression



IMPLICIT TYPE CONVERSION

- The Data Type conversion that is done by compiler automatically
  - 1. Automatic (Lower to Higher)

Lower → Higher

Char, short int	int	float	double	long double

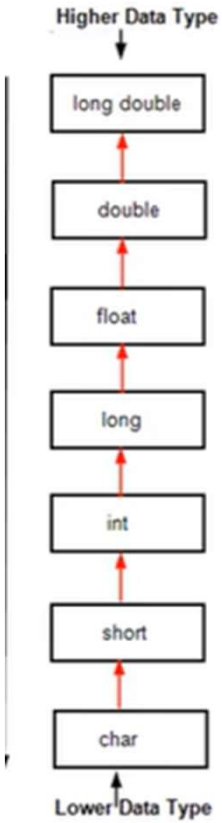
  - 2. By Assignment (Right to Left)

IMPLICIT TYPE CONVERSION(LOWER TO HIGHER)

- 2+5.6+9 so what should be the resultant data type?
- 2.0+5.6+9.6= DOUBLE TYPE

- ‘a’+1, What should be the result?
- Result will be 98

Lower to Higher



Check data type of a variable or value

- #include<typeinfo>
- typeid(variable/expression).name()

- Example:
- cout<<typeid(5.9+6).name();

IMPLICIT CONVERSION RIGHT TO LEFT

- float a=12.5;
- int b=13;
- int sum=a+b;
- What will be the result of sum?
- First Lower to Higher, then Left to Right
- a+b=12.5+13.0=25.5 (which is a float value)
- sum=25 (Hence we loose information)

IMPLICIT CONVERSION LEFT TO RIGHT

- char c1='a'+1;
- char c1=97+1;
- char c1=98;
- c1 will have value of b because of left to right conversion
- What if we write int c1='a';?
- Obviously we will get 97