

Lecture -- 6

Operator precedence and associativity:

1. $()$, $[]$ → Left to right
2. $++$ (postfix), $--$ (postfix) → Right to left
3. $!$ (not), \sim (1's complement), $+$ (unary), $-$ (unary), $++$ (prefix), $--$ (prefix), $\&$ (address), $*$ (indirection), sizeof → Right to left
4. $*$, $/$, $\%$ (modulus) → Left to right
5. $+$ (binary), $-$ (binary) → Left to right
6. $<<$ (shift left), $>>$ (shift right) → Left to right
7. $<$, $<=$, $>$, $>=$ → Left to right
8. $=$, $!=$ → Left to right
9. $\&$ (bitwise AND) → Left to right
10. \wedge (bitwise XOR) → Left to right
11. $|$ (bitwise OR) → Left to right
12. $\&\&$ (logical AND) → Left to right
13. $||$ (logical OR) → Left to right
14. $?:$ (a ? x : y) → Right to left
15. $=$, $*=$, $/=$, $\%=$, $+=$, $-=$, $\&=$, $\wedge=$, $|=$, $<<=$, $>>=$ → Right to left
16. $,$ (comma) → Left to right

Dealing with expressions:

Example 1:

```
void main(void)
{
    int x=2, n=2;
    x=n++;
    printf("%d", x);
    x=++n;
    printf("%d", x);
}
```

*at first n was 2
value 2 to x
then inc
x=2, n=3
at n is inc
then print
x=4, n=4*

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Example 2:

```
void main(void)
{
    int x=2, y=3;
    x*=y;
    printf("%d", x);
    x=x*y;
    printf("%d", x);
    x*=y+1;
    printf("%d", x);
}
```

*{ 2 * 3 }*
*{ x = x * (y+1) }*

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void main(void)