Increment Revisited

Prefix vs. Suffix Increment / Decrement

```
int x=3; int y; int z;

y=++x; /* y=4, x=4 */

z=x++; /* z=4, x=5 */
```

```
int x=3; int y; int z;

x=x+1; /* x=4 */
y=x;   /* y=4 */

z=x;   /* z=4 */
x=x+1; /* x=5 */
```

Lab 3 Program 1

```
> make prog1
gcc –Wall –g –o prog1 prog1.c
prog1.c: In function ‘main’:
prog1.c:9:43: warning: operation on ‘i’ may be undefined
[–Wsequence–point]
   printf("Argument %d is : %s\n",i, argv[i++]);
                                          ^
```

Project 1

```
dom = dom++;
```

Editorial Comment: dom=dom++;

- Valid syntax, but does not make sense
- "dom++" is shorthand for: dom=dom+1
- The extra assignment statement is, at best, redundant
- Interpretation of this statement is unclear

Correct Interpretation: dom=dom++;

- The “++” after dom implies increment dom AFTER evaluating the expression “dom++”
- Therefore, we can re-write this as:

```
int temp=dom;
dom = dom + 1;
dom = temp;
```

- With this interpretation, dom is not incremented!!!!

Incorrect Interpretation: dom=dom++;

- The “++” after dom implies increment dom AFTER evaluating the statement “dom=dom++”
- Therefore, we can re-write this as:

```
int temp=dom;
dom = temp;
dom = dom + 1; //[-Wsequence-point]
```

- With this interpretation, dom *is* incremented!!!!

Proj1 Grading

- Linux lab machines support INCORRECT interpretation
- I assumed a correct interpretation
- I promised I would grade on the linux lab machines
- Therefore, I took off points I shouldn’t have
- I think I’ve fixed these problems
  - If I missed anythhing, send a note or see me during office hours

Resources

- Programming in C, Chapter 5
- http://stackoverflow.com/questions/226002/whats-the-difference-between-x-x-vs-x
- http://programmers.stackexchange.com/questions/153386/why-is-x-x-undefined
- http://cboard.cprogramming.com/c-programming/141633-x%3Dxplusplus%3B-undefined-behavior.html