

Lecture 3



Announcements

- P2 due Monday
- Quiz 2 (Exam Prep) Friday, Feb. 7th
- Exam 1 – Friday, Feb. 14th



Increment and Decrement Operators

| <i>Operator</i> | <i>Name</i> | <i>Description</i> | <i>Example (assume i = 1)</i> |
|-----------------|---------------|---|--|
| ++var | preincrement | Increment var by 1 , and use the new var value in the statement | int j = ++i; // j is 2, i is 2 |
| var++ | postincrement | Increment var by 1 , but use the original var value in the statement | int j = i++; // j is 1, i is 2 |
| --var | predecrement | Decrement var by 1 , and use the new var value in the statement | int j = --i; // j is 0, i is 0 |
| var-- | postdecrement | Decrement var by 1 , and use the original var value in the statement | int j = i--; // j is 1, i is 0 |

Increment and Decrement Operators, cont.

```
int i = 10;
```

```
int newNum = 10 * i++;
```

Same effect as

```
int newNum = 10 * i;
```

```
i = i + 1;
```

```
int i = 10;
```

```
int newNum = 10 * (++i);
```

Same effect as

```
i = i + 1;
```

```
int newNum = 10 * i;
```

Increment and Decrement Operators, cont.

Using increment and decrement operators makes expressions short, but it also makes them complex and difficult to read. Avoid using these operators in expressions that modify multiple variables, or the same variable for multiple times such as this: `int k = ++i + i.`



Your Turn!

- Quadratic Equation (part 1):

$$ax^2 + bx + c = 0$$

Where a is not equal to 0; a , b , and c are numbers, and x is unknown. We typically solve for x , where we would obtain 1 or 2 solutions.



What if...

How can you write this as a Java expression so that if given x , we are checking if x is a valid solution to the equation.

Does the expression evaluate to zero given the four values?



On Your Own!! Write code!!

Write the code to solve this problem in the space given on your worksheet.

When you are finished, WAIT!! There's more!



Switch with a partner

Trace through your partner's code and determine if there are any mistakes.

Kindly write any recommendations in the margin.



Use Your IDE

Now, return the paper to your partner, and look over the recommendations. Will they work? Are they accurate?

Enter your code into your favorite IDE. Does it run?



printf

You can format your decimal numbers using, for example, the following:

```
System.out.printf("Total is: $%,.2f%n", dblTotal);
```

You will learn about printf in recitation.

