

# Java Language Basics

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## 1 Administrivia

### Announcements

Collect lab write-ups.

### Assignment

Read over Soda Pop lab.

### From Last Time

Finished up Lab 4.

### Outline

1. Arithmetic variables and expressions.
2. Boolean Expressions and the `if` statement.
3. Exercise.

## Coming Up

Lab 5.

## 2 Arithmetic Variables and Expressions

1. Numeric variables may be declared as `int` (for integers) or either `float` or `double` (for reals).
2. Addition, subtraction, multiplication, and division of numeric values are performed with the operators `+`, `-`, `*`, `/`.
3. The value stored in numeric variables may be changed with an assignment statement:

```
var = expression;
```

4. Values can be added to a variable with

```
var += increment;
```

Similarly for `-=`, `*=`, and `/=`.

## 3 Boolean Expressions and the `if` Statement

1. Comparisons of numeric values can be made with the operators `<`, `>`, `==`, `!=`, `>=`, and `<=`.

For example, the operator `==` returns `true` if the values are equal and `false` otherwise. The operator `!=` returns `true` if the values are not equal and `false` otherwise.

2. An `if` statement is of the form

```
if (<boolean expression>
    statement;
```

or

```
if (<boolean expression>
    statement;
else
    statement;
```

The boolean expression evaluates to either **true** or **false**. The following statement is executed only if the expression is **true**. The expression after the **else** is only executed if the boolean expression is false.

## 4 Exercise

Refer to handout.