Announcements

• Read for next time Chap. 3, Chap 5.1-5.4
• Assignment 2 out – due in one week
• Finish Classwork before next class
• Reading Quiz for next time
• Consulting Hours will start soon
Object, Classes, Methods

• Classes define
  – the state (data), usually private
  – behavior (methods) for an object, usually public

• There can be many objects created based on a class.

• Method – sequence of instructions that access the data of an object
  – Accessor – access, don’t change data
  – Mutator – changes the data
Example - class Chicken

- **State**
  - weight, height, name

- **Behavior (methods)**
  - **Accessor methods**
    - getWeight, getHeight, getName
  - **Mutator methods**
    - eat – adds weight, adds some height if under 12.0
    - sick – lose weight
    - changeName
Constructing Objects -
new

• Create three chickens
  – “Fred”, weight 2.0, height 3.8
  – “Sallie Mae”, weight 3.0, height 4.5
  – “Momma”, weight 6.0, height 8.3

• Use Chicken constructor
  Chicken one = new Chicken(2.0, 3.8, "Fred");
  Chicken two = new Chicken(3.0, 4.5, "Sallie Mae");
  Chicken three = new Chicken(6.0, 8.3, "Momma");
Another Class - String

• Use the API methods for String class
  – To get to API from CompSci 6 web page
    • Click on “resources”
• Print length of Chicken one’s name.
• length is a method in String class.

System.out.println(one.getName() + “ has “ + one.getName().length() + “ letters.”);
Object References

- Variable of type object – value is memory location

```
one = 

two = 

Chicken
weight = 2.0
height = 3.8
name = "Fred"

Chicken
weight = 3.0
height = 4.5
name = "Sallie Mae"
```
one = two;
- Now they reference the same object
APT – Hinged Door

• Work through a solution in class
• Load in APT and run
Classwork Today - APTs

- Sit in groups
- Login to laptops
- Start Eclipse, create a Java Project
- Enter in a Java class and method
- Test the class/method with an APT
- Repeat with other
- Submit the files with Ambient
- Save the files to your Duke account before logging off (check-in)