Announcements

- Read for next time Chap. 3, Chap 5.1-5.4
- Homework will be posted
- 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"

  Chicken
  weight = 6.0
  height = 8.3
  name = "Momma"

  one = two;

- Now they reference the same object

  one =
  two =

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

  Chicken
  weight = 3.0
  height = 4.5
  name = "Sallie Mae"
Today

- Sit in groups
- Login to laptops
- Start Eclipse
- Enter in a Java method
- Test the method with an APT
- Submit the files
- Save the files to your Duke account before logging off (SSH)