CSE 113 A

September 21 – 25, 2009

Announcements
- No classes held on Monday, 9/28 until 6:00pm – university holiday.
- Lab 1 due 10/2
- Exam 1 10/7

Documentation
- Inside of Greenfoot, you can view the documentation about the built-in Greenfoot classes. Find this option under the Help menu.
- The documentation can help you better understand how to use certain methods from the built-in classes.

Strings
- Strings are a built-in type (object) inside of Java.
- Strings are a sequence of letters, digits, or other characters.
- If you want to specify a String literal, you need to surround it in quotes.
  - “this”
  - “a”
  - “left”
The next several slides indicate review materials that were covered in class on Monday 9/21 and Wednesday 9/23. They incorporate the main ideas from Chapter 1 – 3 of the text.
Write the code for an act method that does the following:

- If hit edge of world, turn between -30 and 30 degrees
- If hit car, play sound "crash.wav" and stop scenario
- 25% of time - move
- 50% of time - turn 5°

```java
if (atWorldEdge())
    turn (Greenfoot.getRandomNumber(60) - 30);
if (canSee(Car.class))
    Greenfoot.playSound("crash.wav");
    Greenfoot.stop();
```
Questions

- Use the previous slides as a study guide. The answer for the last question posed on the slides will be available the week of September 28th.

Constructors

- Constructors are special methods that are called each time an instance of a class is created.
- Constructors inside source code:
  ```java
  public SameNameAsClass()
  {
  }
  ```
- Note that there is no return type and the constructor will always have the same name as the name of the class.
Constructors

- Inside the body of the constructor (inside the { } ), you can do any of the same things you can do inside of other methods.
- Therefore, we can call methods from within a constructor.
- In our example, we call `super(560,560,1);`
- This is a call to a method named `super`. `super` is a keyword that actually indicates a call to the superclass’ constructor.

Adding Objects to the World

- Note that the `addObject` method of the world takes as its first parameter an Actor to be added.
- We need to create an actual instance to pass into this method.
- To create an object inside Java source code:
  
  ```java
  new ConstructorName();
  ```
- `new` is a keyword indicating that we are creating a new instance.
- `new` is followed by a call to the class’ constructor. Values are inserted in the () if needed.

Adding Objects to the World

- `addObject` also takes an x and y coordinate as parameters.
- We need to remember that in the coordinate system for graphics on computers, origin (0,0) is the upper left hand corner.
- The values of x increase as we move right on the screen and the values of y increase as we move down on the screen.