CSE 113 B
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:

1. If hit edge of world turn between -30 and 30 degrees randomly
2. If hits a Car, play sound "crash.wav" and stop the simulation
3. 25% of the time it should move
4. 50% of the time it should turn 90 degrees

if(at WorldEdge())
   turn(Greenfoot.getRandomNumber(-30,30));
5. If canSee(car, class)
   Greenfoot.playSound("crash.wav");
   Greenfoot.stop();
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 are special methods that are called each time an instance of a class is created. Constructors inside source code:

```
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.

- `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.