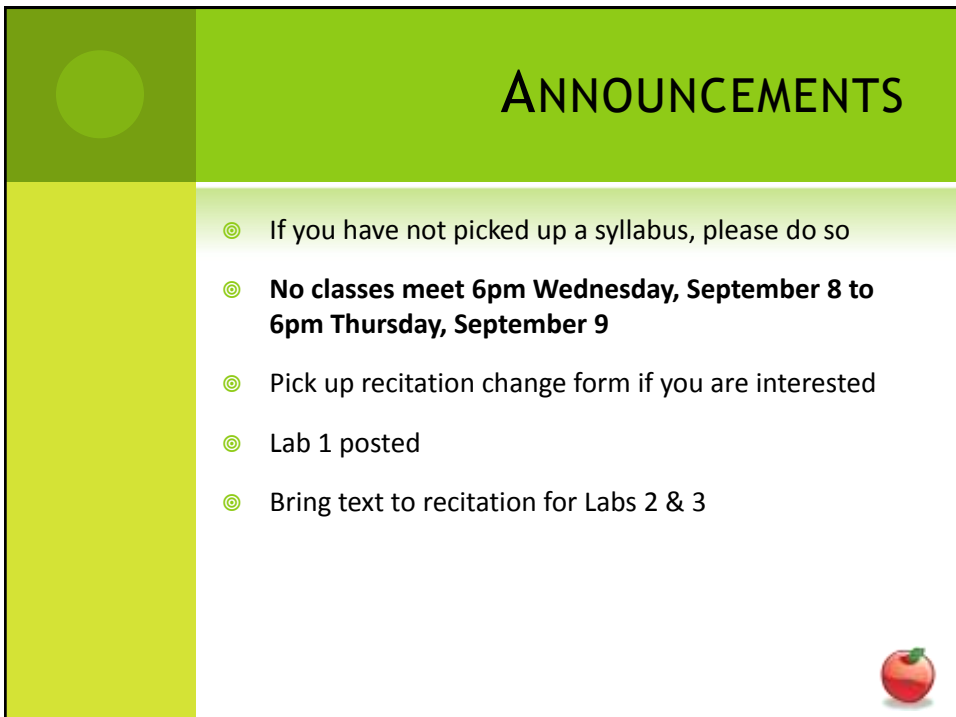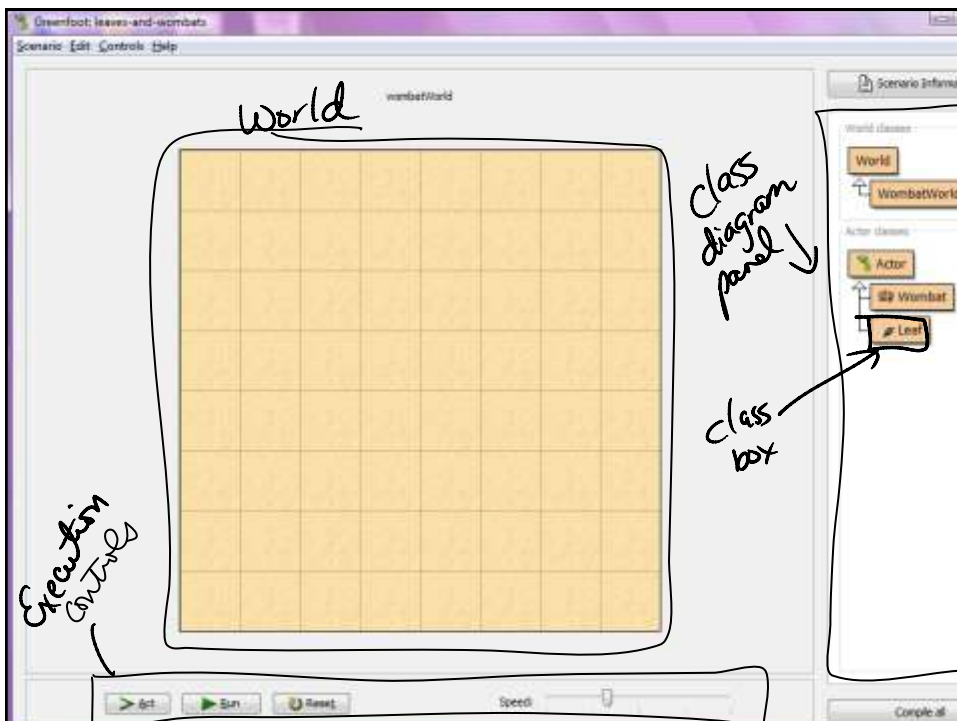# CSE 113 B

September 6 – 10, 2010

ANNOUNCEMENTS

- ◎ If you have not picked up a syllabus, please do so
- ◎ **No classes meet 6pm Wednesday, September 8 to 6pm Thursday, September 9**
- ◎ Pick up recitation change form if you are interested
- ◎ Lab 1 posted
- ◎ Bring text to recitation for Labs 2 & 3

GREENFOOT ENVIRONMENT

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◎ Available on computers in 340 Bell

◎ Available on computers in 101 Bell

◎ Can download to home machine (instructions in book)

5

◎ The class diagram panel has boxes – each of these boxes is called a class box and they each represent a class

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Class- programming term

Definition (informal)

— what some part of our
program is like

— tell me what it does

7

So a class is important for defining something

But - if we want something to actually happen (the program to run), we need object.
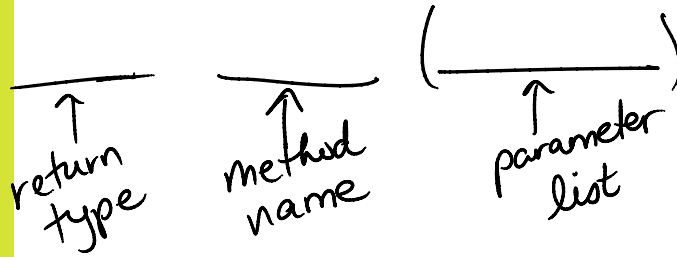
8

Methods - actions an object can perform.

When we want the action to happen we invoke the method (call the method)

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Method signature:

____ _____ (_____)
  ↑   ↑   ↑
return method   parameter
type   name   list

10

Return type: The type of
information that gets returned
when a method is done
executing

void - nothing is returned
int - number; integer; whole number
boolean - true / false

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Method name: Name the
programmer gives the method

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Parameter list
— The list is always enclosed in ()
— The list can be empty
— If it is not empty, a parameter
list contains parameters

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Parameter - Extra pieces of information that are needed to perform the actions of the method.

- Parameters are listed with by their types

PARAMETERS

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◎ When we describe a method to someone, like what is listed in the right-click menu in Greenfoot, we give the parameter's type

◎ When we execute that method, we need to an actual value to that parameter

◉ Example from lecture – set direction method – we needed to say which direction 0,1,2, or 3

INHERITANCE

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◎ World and Actor are part of every Greenfoot scenario

◎ As programmers, we need to create our own world and our own actors

◎ Each of those things will share a bond with World and Actor – they will inherit from them

INHERITANCE

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◎ When one class inherits from another, the subclass inherits methods (actions) from the superclass.

◎ Notice that when we click on Wombat, we see a pull out menu "Inherited from Actor" at the top. This menu shows us all the methods that Wombat inherits from Actor.

RECAP OF PROGRAMMING TERMS (WITH INFORMAL DEFINTIONS)

17

◎ Class – definition of something in our program

◎ Object – an actual part of the program when it is run

◎ Method – things objects can do. Must be defined in the class

◎ Invoke a method – cause the action of the method to execute (when we run our program)

RECAP OF PROGRAMMING TERMS (WITH INFORMAL DEFINTIONS)

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◎ Method signature is made of three main parts that will describe a method to others

   ◉ Return type

      O Methods can either give the type that will be returned from the method, or void if nothing is returned

   ◉ Method name

   ◉ Parameter list

      O Can be empty or describe using type and name what the parameters for the method are

MORE IDEAS

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◎ "Running" a scenario in Greenfoot causes the act methods of all the actors in the scenario to be invoked repeatedly

◎ All Greenfoot scenarios use inheritance. World and Actor are superclasses of the specific type of world and specific type of actors the programmer creates for the scenarios. The specific types (subclasses) inherit the methods from the more general types (superclasses)