SUMMARY (SEE CHECK-SHEET FOR A STEP-BY-STEP BREAKOUT PLAN!)
In this lab you will give the G&E Turtle a new potential behavior: To draw a square. First, you write or copy from your Lab02 program to create and test a program that simply makes a World and a Turtle in that World. Then, you will write a method named drawSquare into a copy of G&E’s Turtle.java file. That body shall FIRST make the computer print "drawSquare was called." when the drawSquare method is called (NOT draw a square!). You will test that! After testing that the method you’re developing is being called properly, you will then revise it to make its Turtle, referred to by this, draw stuff using commands like this.forward(100); testing each time you change 1 or 2 lines of code.

When you get it to draw a satisfactory 100 by 100 pixel square, you will revise both the drawSquare method definition (in Turtle.java) AND your call to drawSquare (in your main() method’s body) so drawSquare has a double (double precision floating point numeric) parameter for the square’s scale.

After testing that the new parameter-using versions of main() and drawSquare() continue to compile and work together to make a 100 by 100 pixel square; and debugging them until they do if not, you will finally work on making the scale parameter control the size of the square.

The program you submit for lab follow-up credit, consisting 2 class-defining .java files (one named Lab03Prog.java and the other Turtle.java, (or just Turtle.java) must, when run starting at the relevant main() method, draw at least two squares, all of different sizes, by calling your drawSquare() method with different parameter values for each square it draws.

PRE-LAB
You should have done the following things before lab:

1. Read section 3.5 in the book, about adding methods to the Turtle class.
2. Reviewed and thought about Lecture 06 where scaling was introduced.
3. Remember or note now: this.forward( (int) (100 * scale)); is the Java code to put in Turtle's void drawSquare(double scale) method body to make this Turtle draw a line of length 100 scaled by the value of scale number of pixels.

G&E’s Turtle’s forward method only accepts an integer (whole) number of pixels for the distance the Turtle is commanded to move. If you don’t like that, complain to those Georgia professors.

The scaled length typically has a non-zero fractional part (fraction after the decimal point). The cast (int) truncates (throws away!) the fractional part; it doesn’t round to the nearest integer. Don’t worry about this unless you are programming rockets, heart pace-makers, airplanes, etc.

IN-LAB
Do what it says in the summary. Check the steps on the in-lab sheet as you do them & show it to TA. GET HELP from classmates & TA for getting your revised Turtle.java file to compile and be used, and getting new copy from under /usr/local/depts/cs/geintro/bookClasses if needed.

POST-LAB
Finish and upload 1-2 .java files to Blackboard. Then work on your Project 1 homework!