CS2110. Recitation 1

The course webpage titled "Lecture Notes" should always contain ppt slides or pdf files of the slides (or both) for lecture and each recitation. There may also be extra files there as well.

These will be put on that webpage by the early evening before the lecture or recitation.

It's good to download these the evening before the lecture or recitation, to spend a few minutes perusing them, and to bring them to the lecture or recitation.

Download and install Java

Course website tells you how:

http://www.cs.cornell.edu/courses/CS2110/2016fa/
resources.html#Java

JRE: Java Runtime Environment. A java program is compiled into the *Java Virtual Machine Language*, An "interpreter" interprets and actually runs your program.

JDK: Java Development Kit. Contains, among other things, the program that *compiles* a Java program.

Downloading and installing the JDK also installs the JRE.

Download and install Eclipse

Eclipse: The IDE (Integrated Development Environment we use in this course to write, debug, run Java programs.

Course website tells you how to install:

http://www.cs.cornell.edu/courses/CS2110/2016fa/resources.html

and scroll down.

About Java

We will use code that mentions a "class". DO NOT BE CONCERNED TODAY ABOUT WHAT A CLASS IS! You will learn that in the next two lectures in the Statler Auditorium.

You will see some "methods": functions, which return values, and procedures, which do things and don't return values. You will learn that in the next two lectures in the Statler Auditorium.
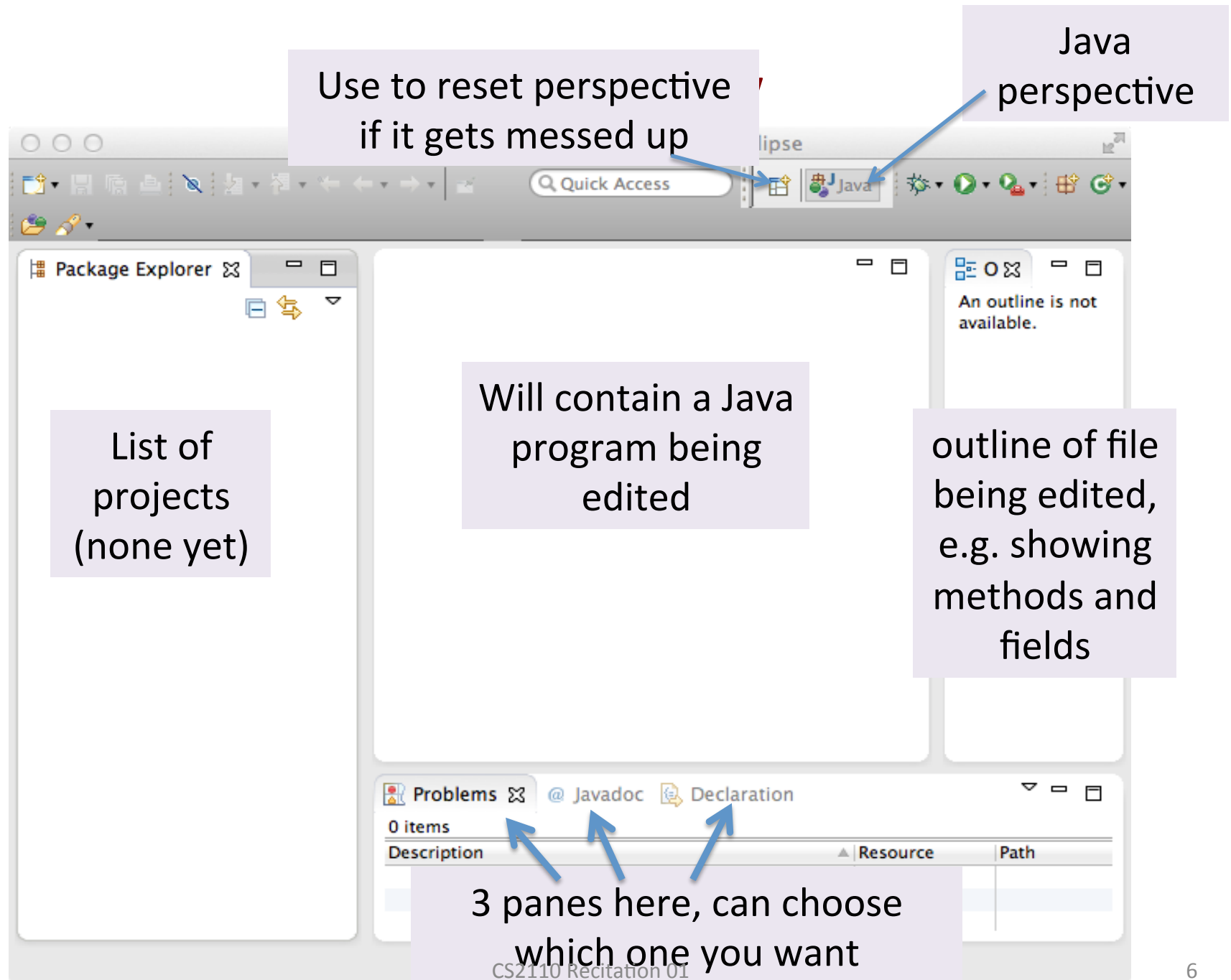
Don't be concerned about Java syntax, what classes are, what "methods" are, what static means, etc. Focus instead on the mechanics of using Eclipse. That's the focus for this recitation.

About Java

In today's recitation, we look at a "class" called First that contains two "methods":

1. A procedure main, which does not return a value.
2. A function radius, which does return a value.

We will see how to write this class in the IDE (Integrated Development Environment) Eclipse and how to execute the program —by executing a call on method main.
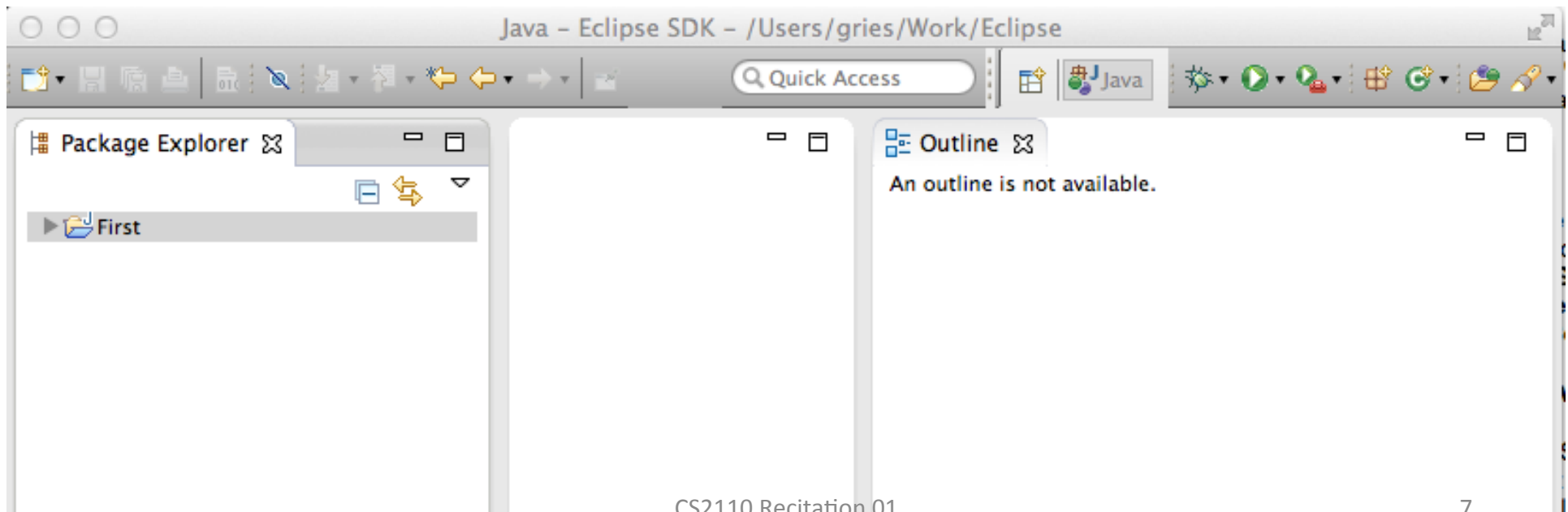
Add a project

Use menu item File -> New -> Java project.

Give it a name, First.

Note: You get to say where the project files go. We suggest putting them in the default place that Eclipse suggests.

Note: Always start a new program in a new project!

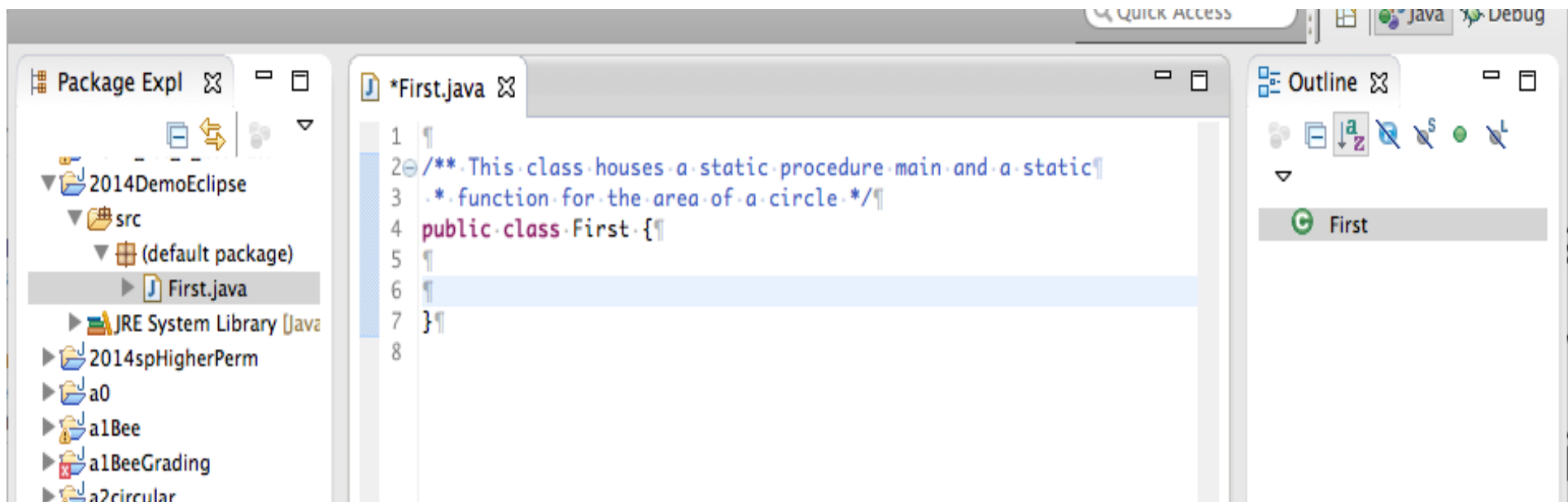# Add class First

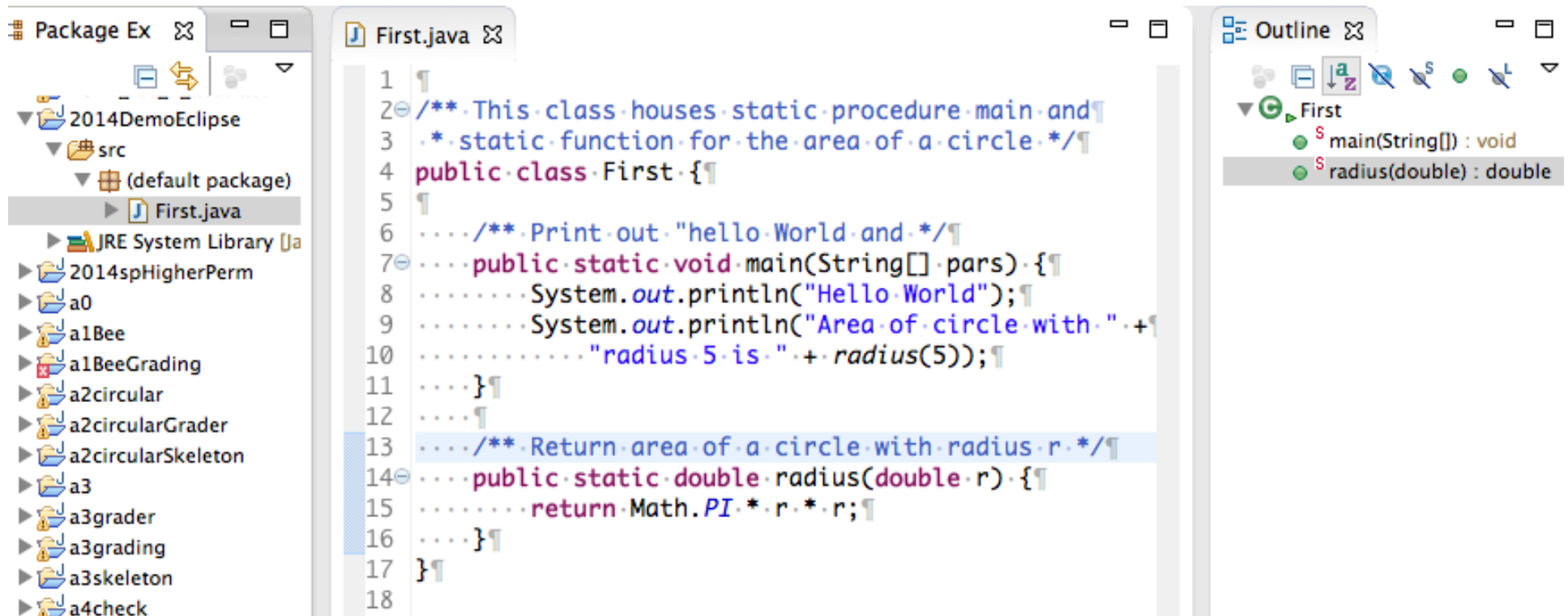Use menu item File -> New -> First.

Give it a name, First.

Click button Finish

Put declarations into class Circle

Copied everything in the available .java file, selecedt all lines in the middle pane below, and paste.

```
1    ¶
2⊝   /** This class houses static procedure main and¶
3     * static function for the area of a circle */¶
4    public class First {¶
5     ¶
6        /** Print out "hello World and */¶
7⊝       public static void main(String[] pars) {¶
8            System.out.println("Hello World");¶
9            System.out.println("Area of circle with " +¶
10               "radius 5 is " + radius(5));¶
11       }¶
12        ¶
13       /** Return area of a circle with radius r */¶
14⊝      public static double radius(double r) {¶
15           return Math.PI * r * r;¶
16       }¶
17   }¶
18
```

Package Ex
- 2014DemoEclipse
  - src
    - (default package)
      - First.java
  - JRE System Library [Ja
- 2014spHigherPerm
- a0
- a1Bee
- a1BeeGrading
- a2circular
- a2circularGrader
- a2circularSkeleton
- a3
- a3grader
- a3grading
- a3skeleton
- a4check

First.java

Outline
- First
  - main(String[]) : void
  - radius(double) : double

```
/** Class houses a static procedure main and a static function
 * that calculates the area of a circle. */
public class First {
    /** Print out "hello World and */
    public static void main(String[] pars) {
        System.out.println("Hello World");
        System.out.println("Area of circle with radius 5 is " +
            area(5));
    }

    /** Return the area of a circle with radius r */
    public static double area(double r) {
        return Math.PI * r * r;
    }
}
```
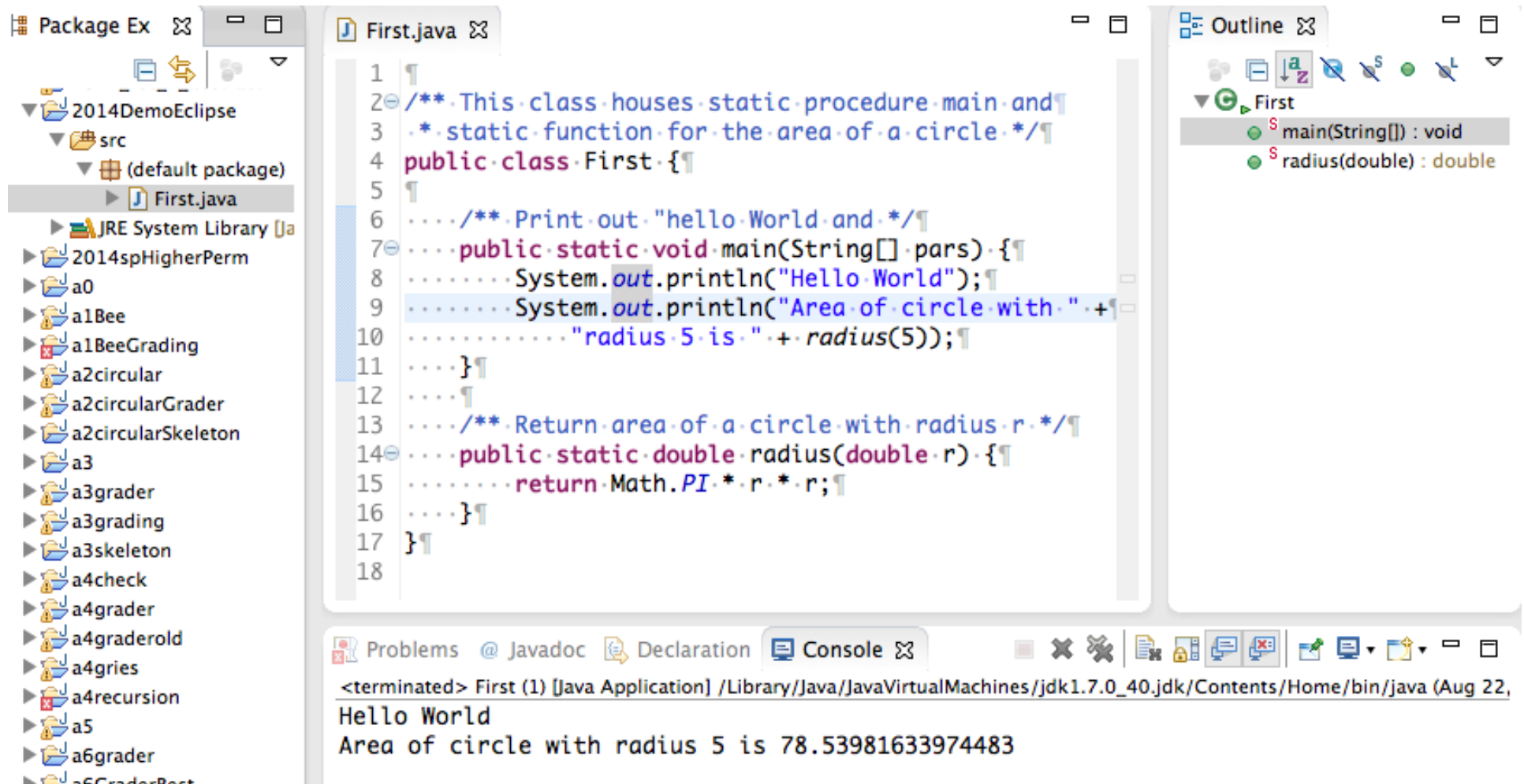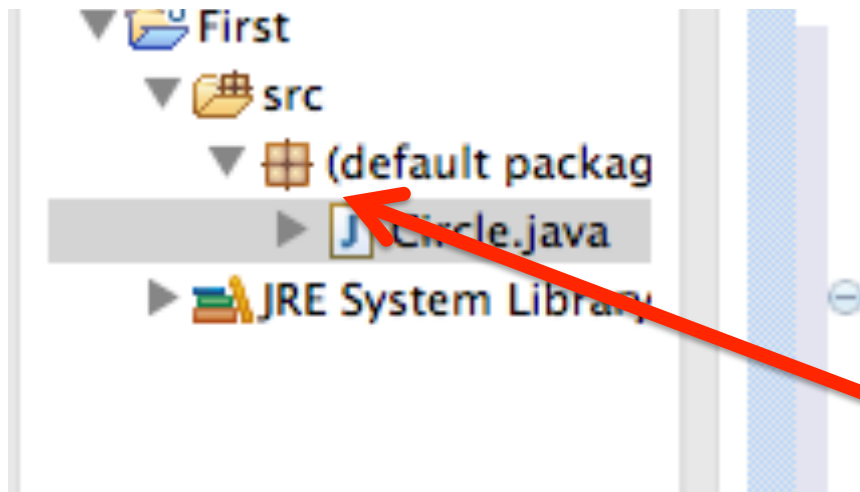
Running the program

Use menu item Run -> Run. It executes method main.

Add a .java file by dragging to left column

First
   src
      (default packag
         Circle.java
   JRE System Library

```
private double radius;
public static double PI=  3

/** Set radius of the circl
public void setRadius(doubl
        radius= r;
}
```

You may be asked: copy or to link to original? ALWAYS COPY.
So changes don't mess up original

.DS_Store
09apr07exceptions
09apr16demo
09apr21demo
09feb17demo
09jan27demo
09mar03demo
09mar05demo
09nov10demo
09oct01recursion
09oct06demo
09oct15demo

.DS_Store
D.java
Demo.java
Hilbert_curve.png
hilbert1.gif
hilbert2.gif
PairDI.java
Turtle.java