

Just a little 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.

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1

```

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

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

```

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2

Download and install Java

Course website tells you how:

<http://www.cs.cornell.edu/courses/CS2110/2015fa/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.

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3

Download and install Eclipse

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

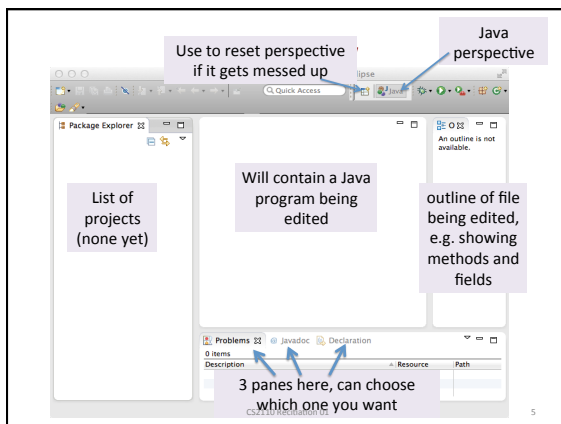
Course website tells you how to install:

<http://www.cs.cornell.edu/courses/CS2110/2015fa/resources.html>

and scroll down.

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4



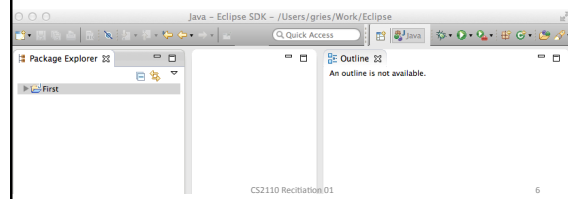
Add a project

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

Give it a name, **First**.

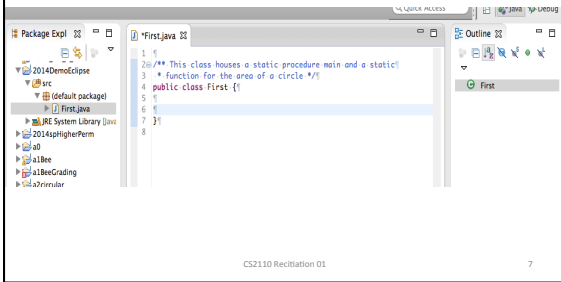
Note: You get to say where the project files go. We suggest putting them in the default place that Eclipse suggests.

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



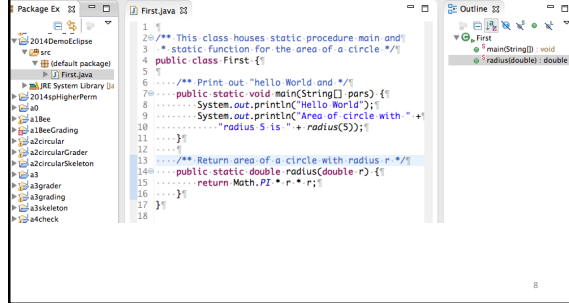
Add class First

- Use menu item File -> New -> First.
- Give it a name, First.
- Click button Finish



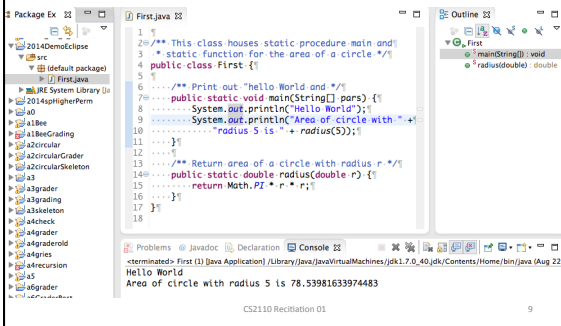
Put declarations into class Circle

- Copy the declarations of components from slide 2 into class Circle in the middle pane.

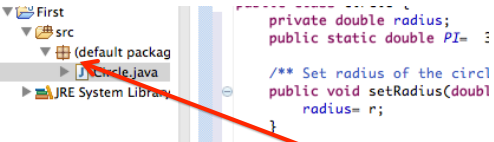


Running the program

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



Add a .java file by dragging to left column



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

```

private double radius;
public static double PI = ;

/** Set radius of the circle
public void setRadius(double r) {
    radius = r;
}
    
```

