Java Environment

CSCI 201L

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HTTP://WWW-SCF.USC.EDU/~CSCI201

Outline

- Java Environment

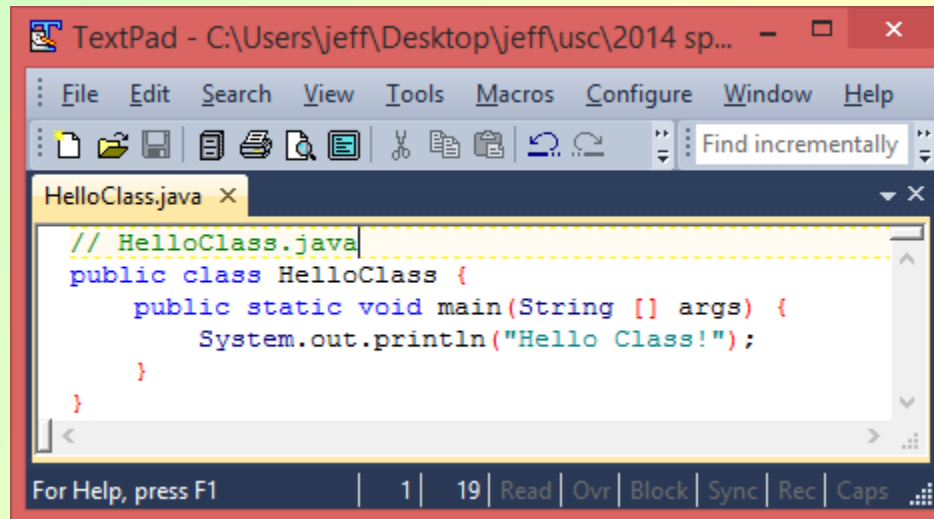- Eclipse Tutorial

- Program

History of Java

- Java was created by Sun Microsystems
  - › First version 1.0 was released in 1996
- Sun Microsystems was bought by Oracle in 2010
- Java has gone through numerous major and minor releases
  - › Current major version is Java 8, released in 2013 with few updates since
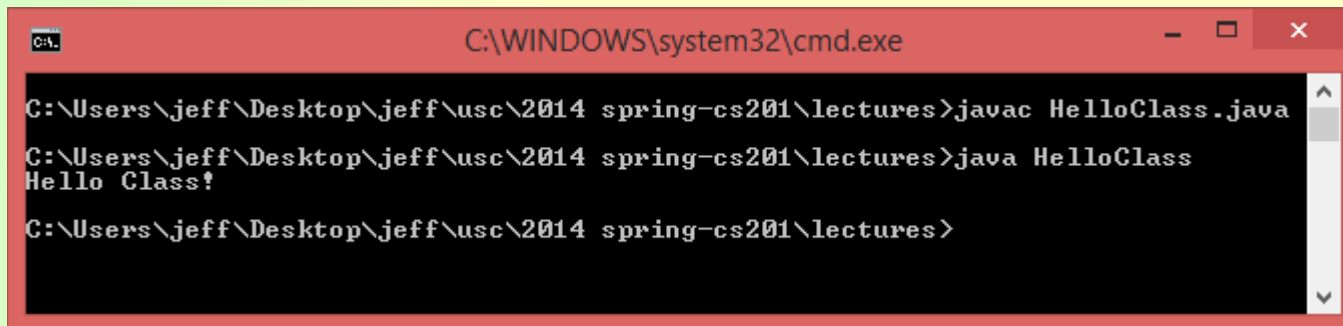- Java is open source
- http://java.sun.com

Compiling

- Java has a motto of "write once, run anywhere"

  › When code is compiled, it produces byte code instead of a binary executable

  › The Java Virtual Machine (JVM) is compiled for a specific operating system, then allowing for the byte code to run on any operating system (for which there is a JVM)

  › Since the JVM is written in a native language, there may be subtle, or not-so-subtle, differences when run on different JVMs

- Java may run slightly slower than compiled native languages

Command Line

- You can write with any text editor you want and compile it from a command line that has the Java Development Kit (JDK) installed

IDE

- There are many Integrated Development Environments to use

  › Eclipse

  › NetBeans

  › IntelliJ

  › Visual J++

  › Others?

Outline
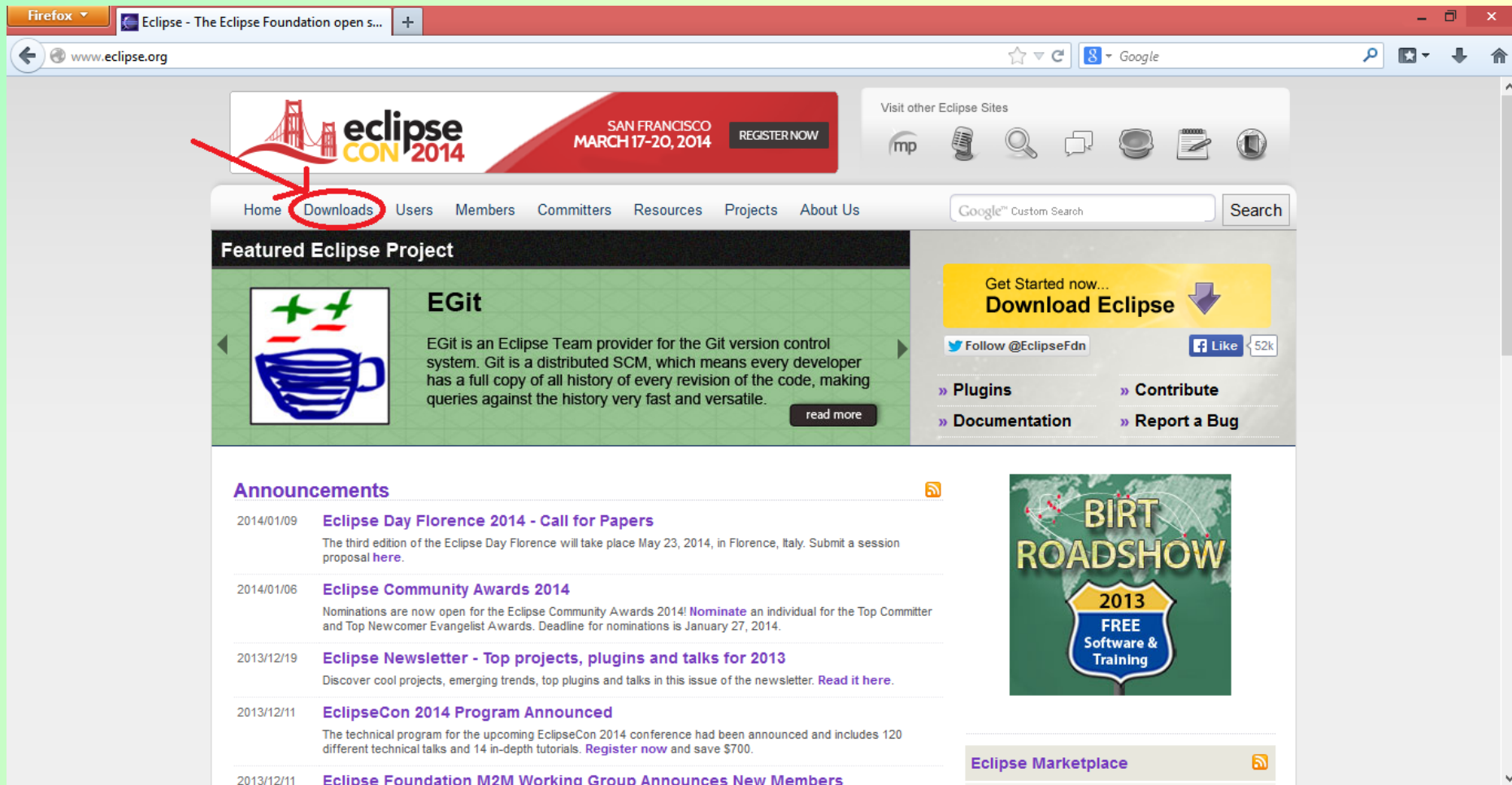
- Java Environment
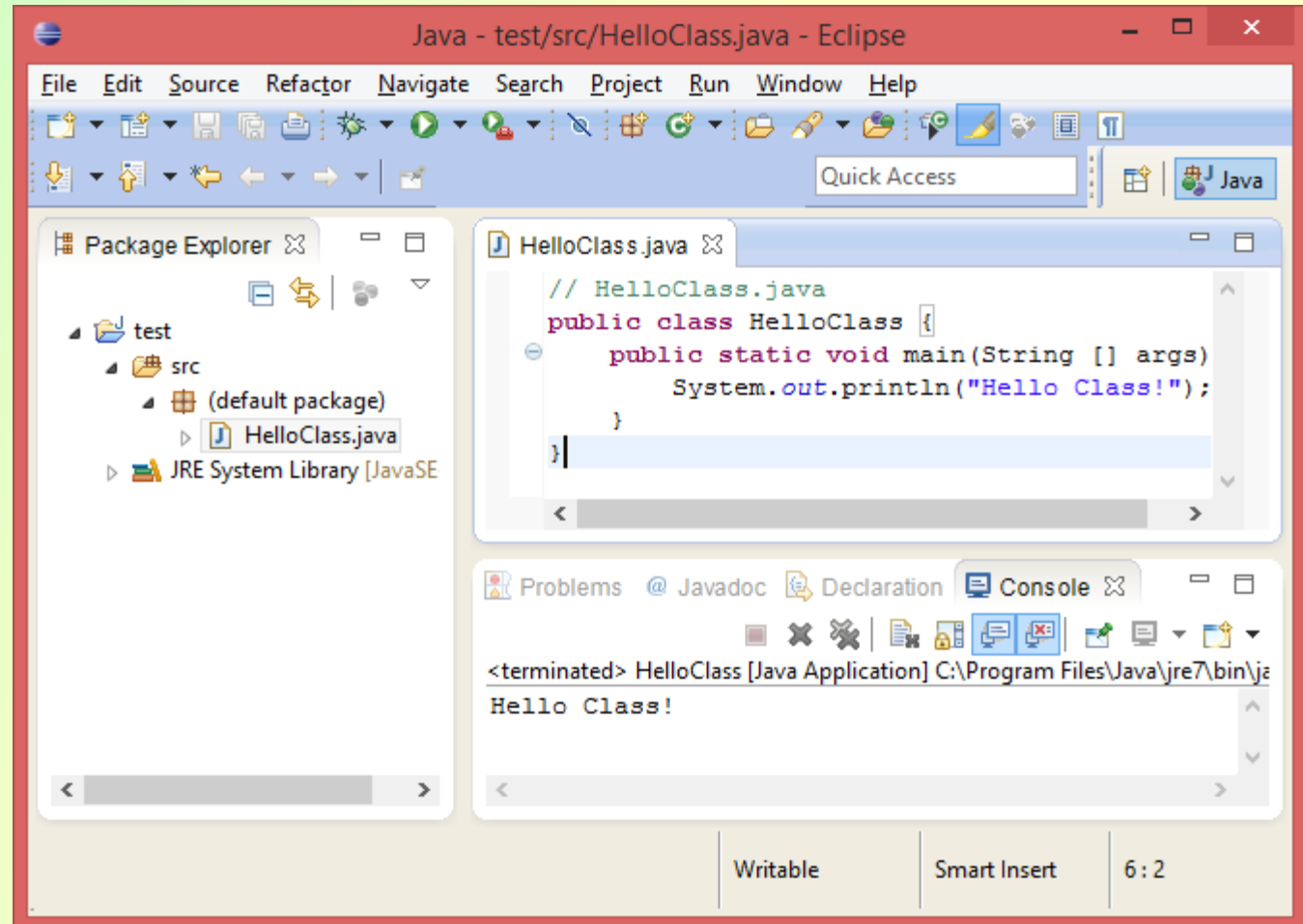
- Eclipse Tutorial

Downloading Eclipse
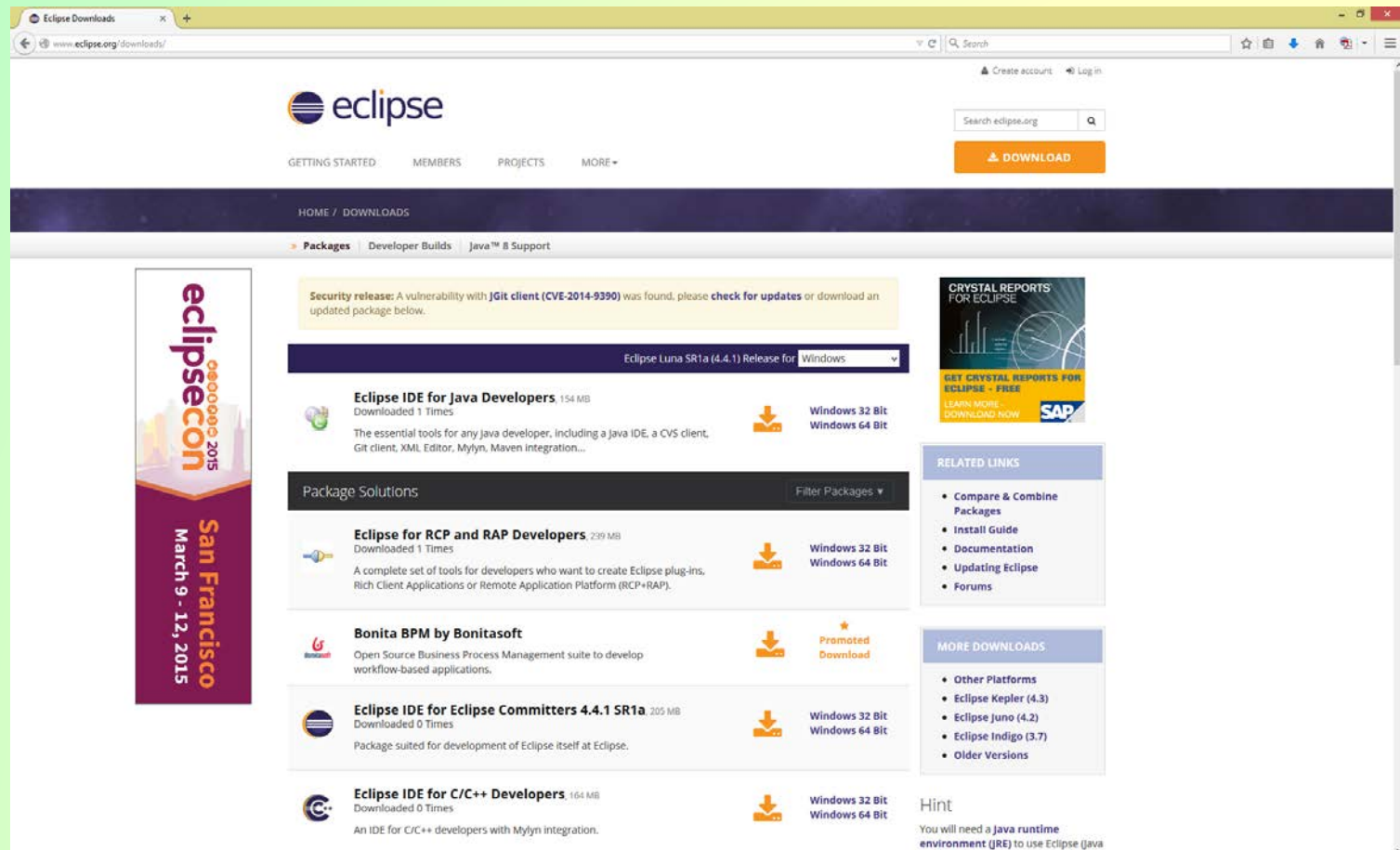
- Go to http://www.eclipse.org

Downloading Eclipse

- Click Downloads

Downloading Eclipse

- Select your OS (if not already selected) then click the version for the Eclipse IDE for Java Developers

Downloading Eclipse

- Click the green arrow next to the selected mirror

Downloading Eclipse

- Save the zip file
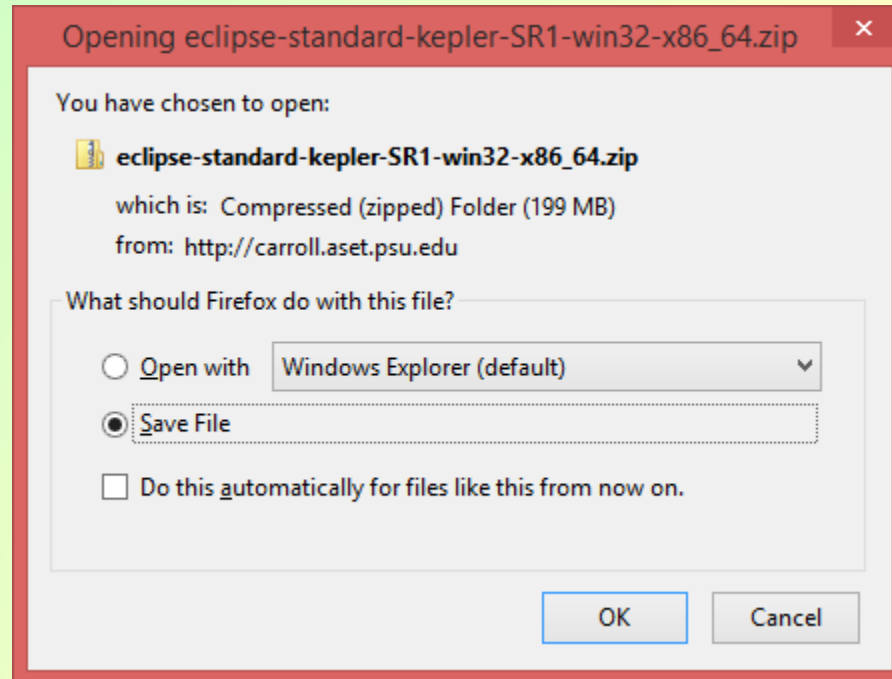
Downloading Eclipse

▪ Open the zip file and drag the "eclipse" directory to your Desktop (or another directory of your choosing)

Running Eclipse

- After the zip file finishes extracting, open the "eclipse" directory and run the eclipse executable

Running Eclipse

- Select a workspace directory
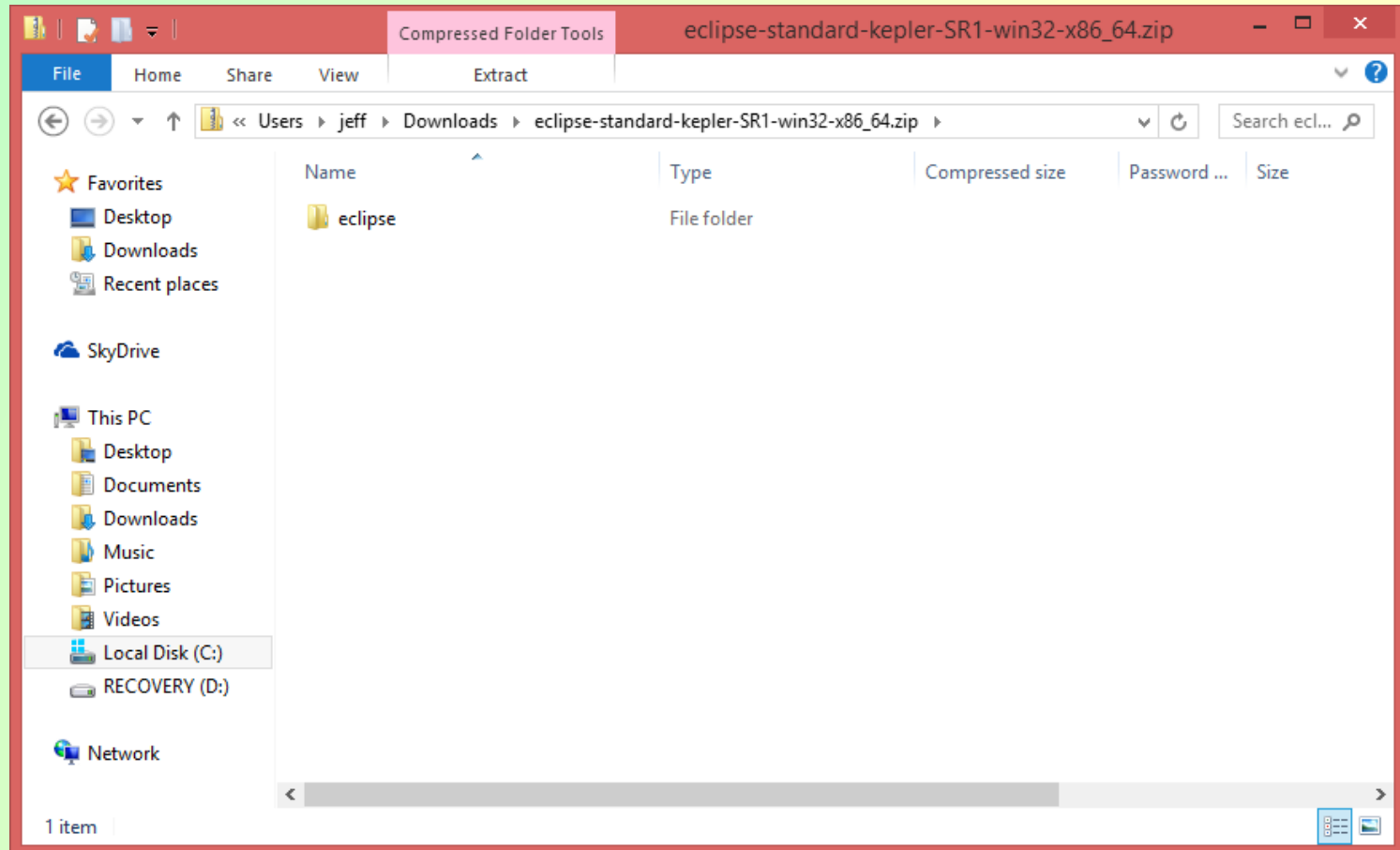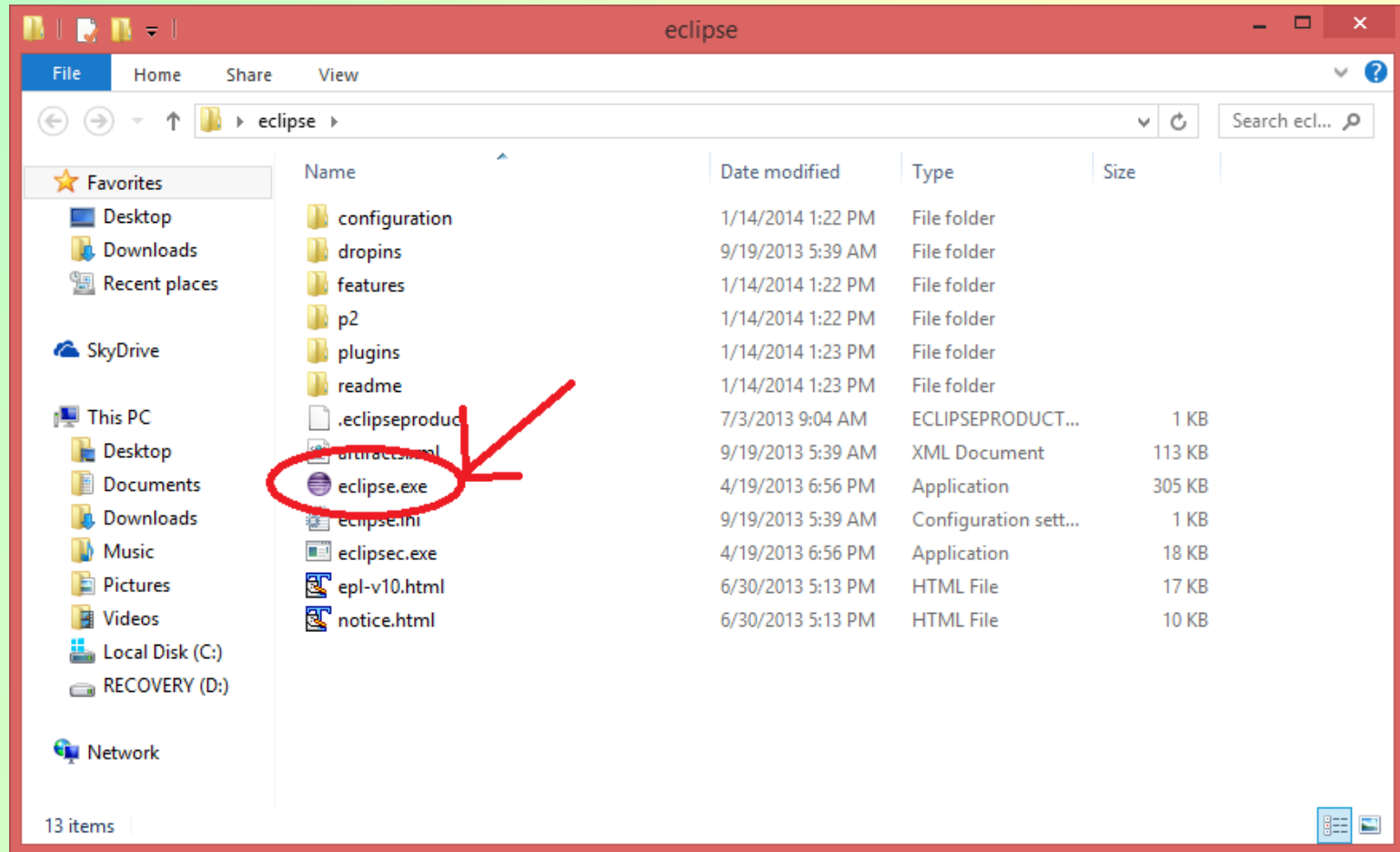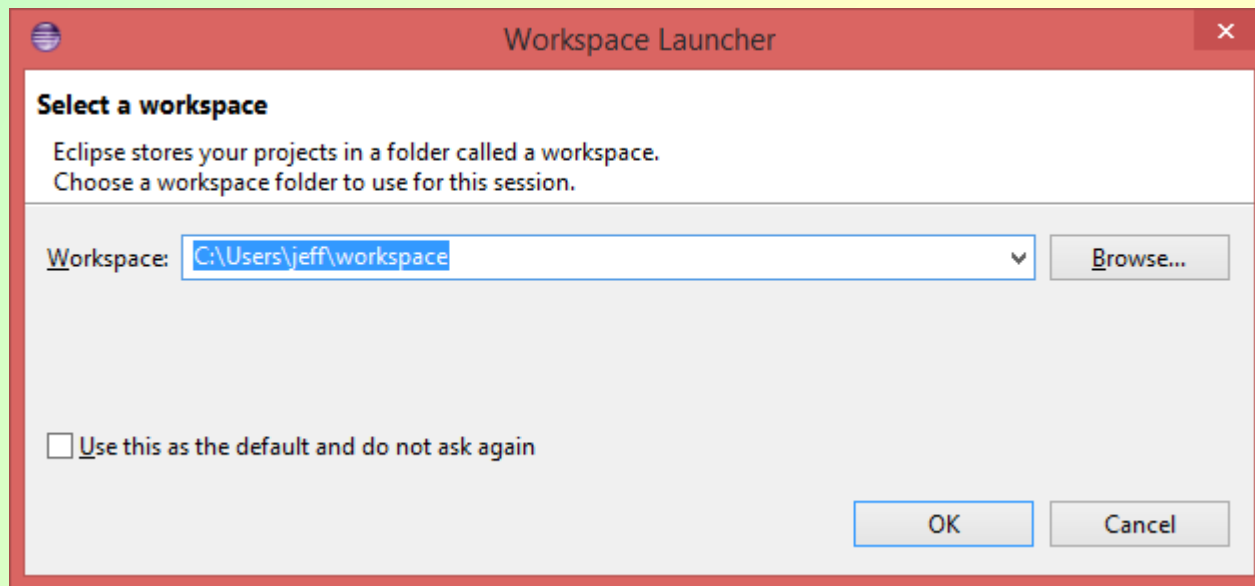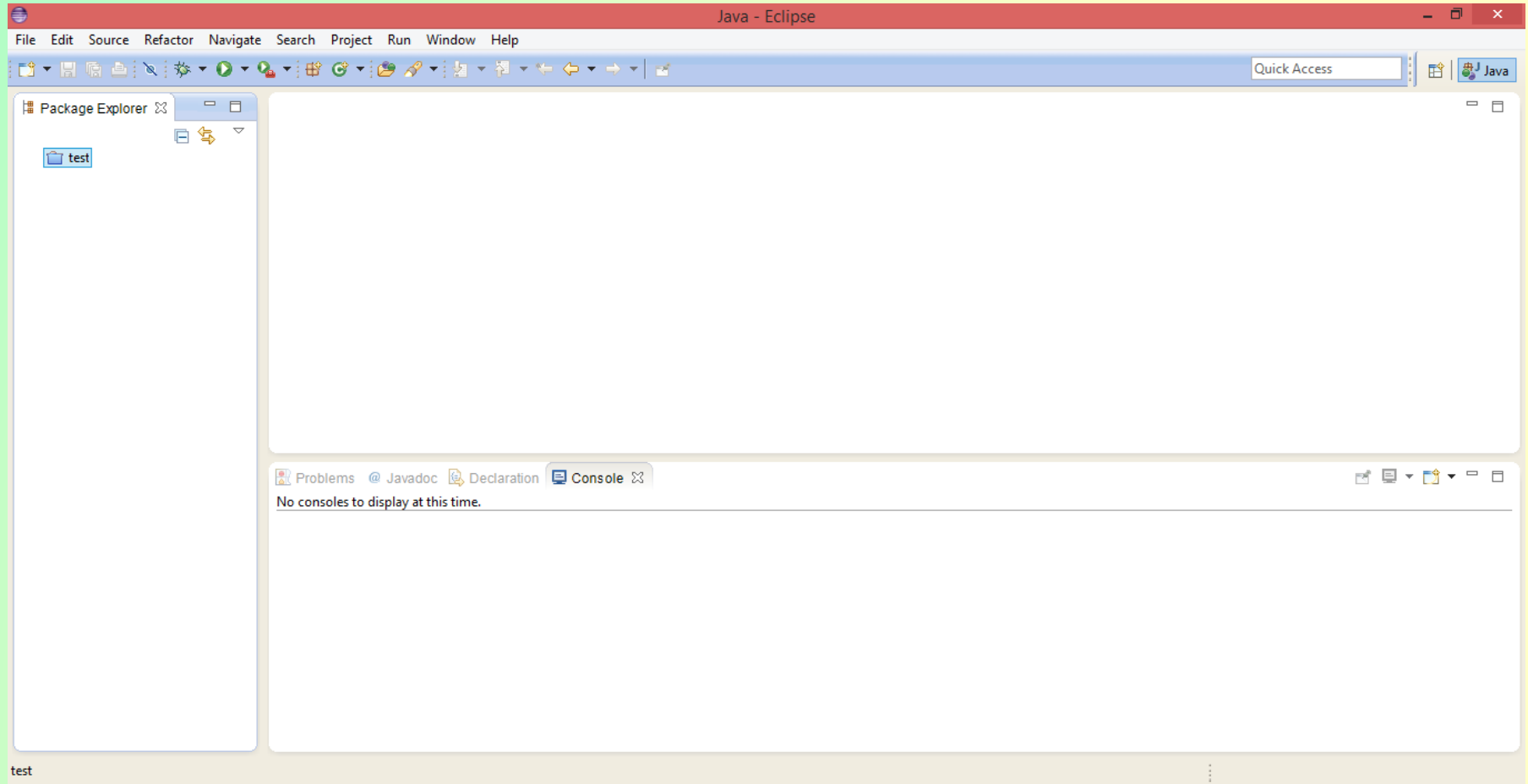 - › The workspace directory will be the one that contains all of your projects, code, and compiled files
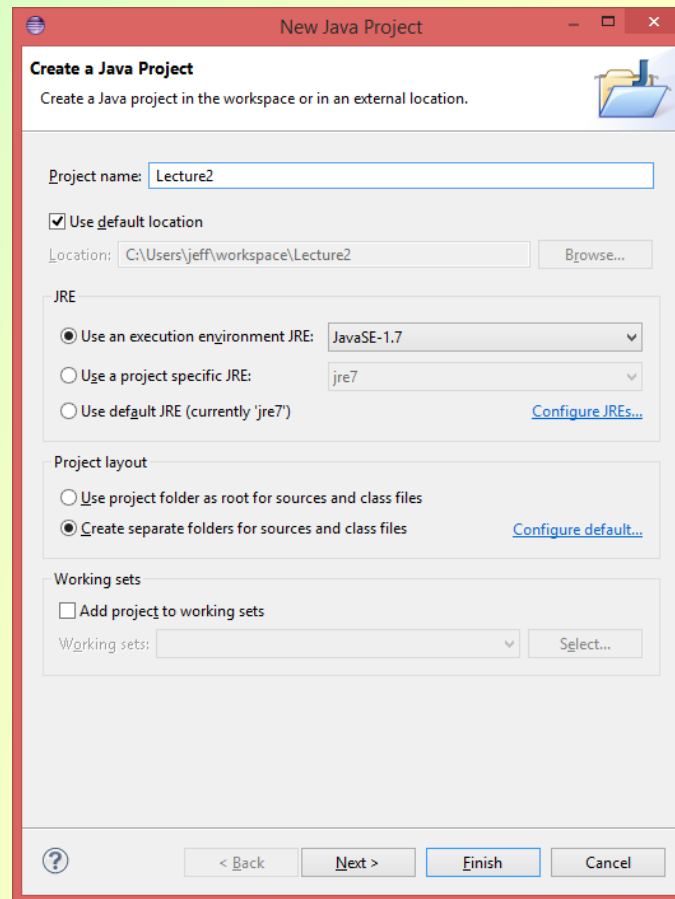
Creating a Project

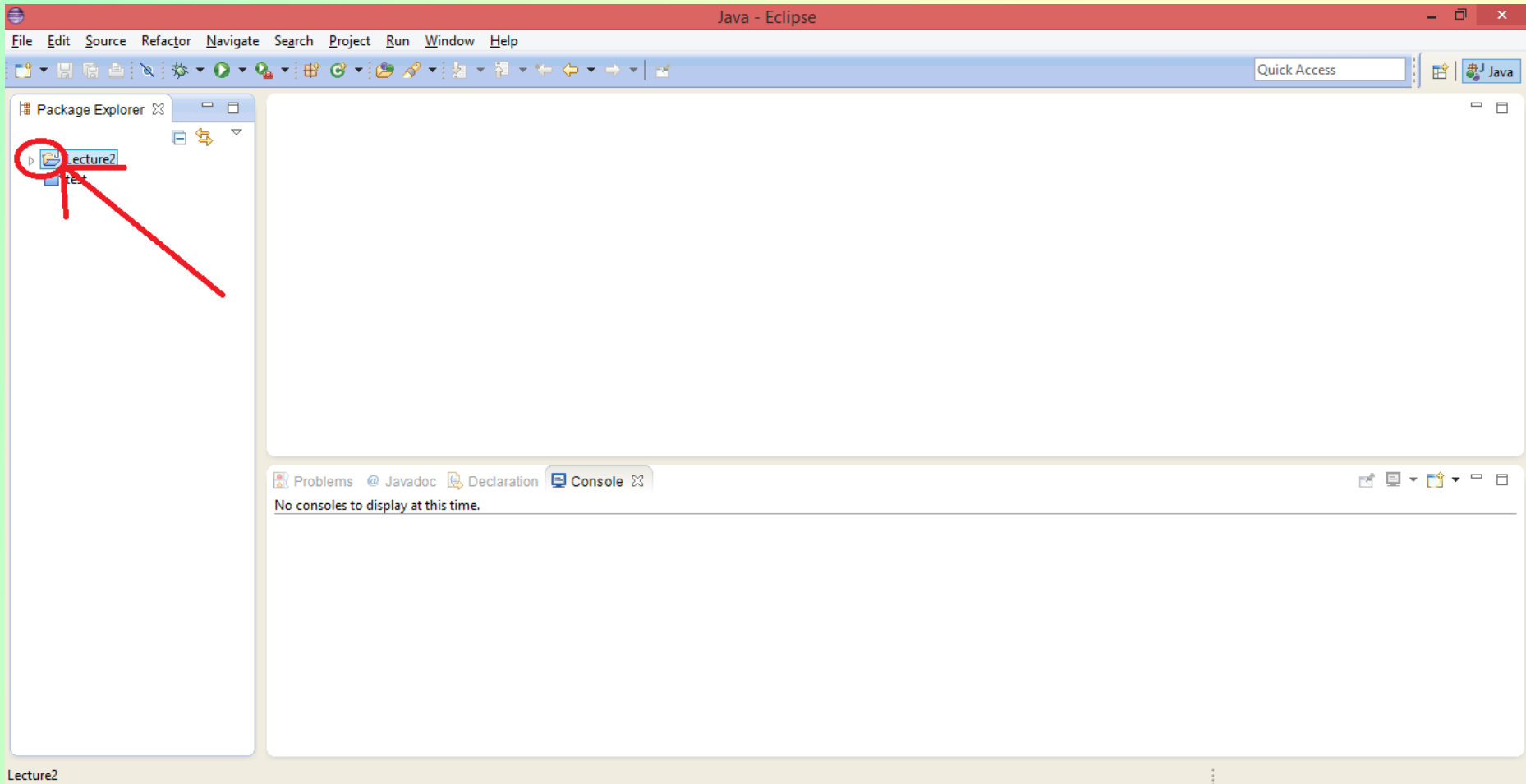- Go to File->New->Java Project

Create a Project

- Type a name for the Project and click Finish
  - › This has nothing to do with the code, but it should be descriptive enough for you to know what code is in the project
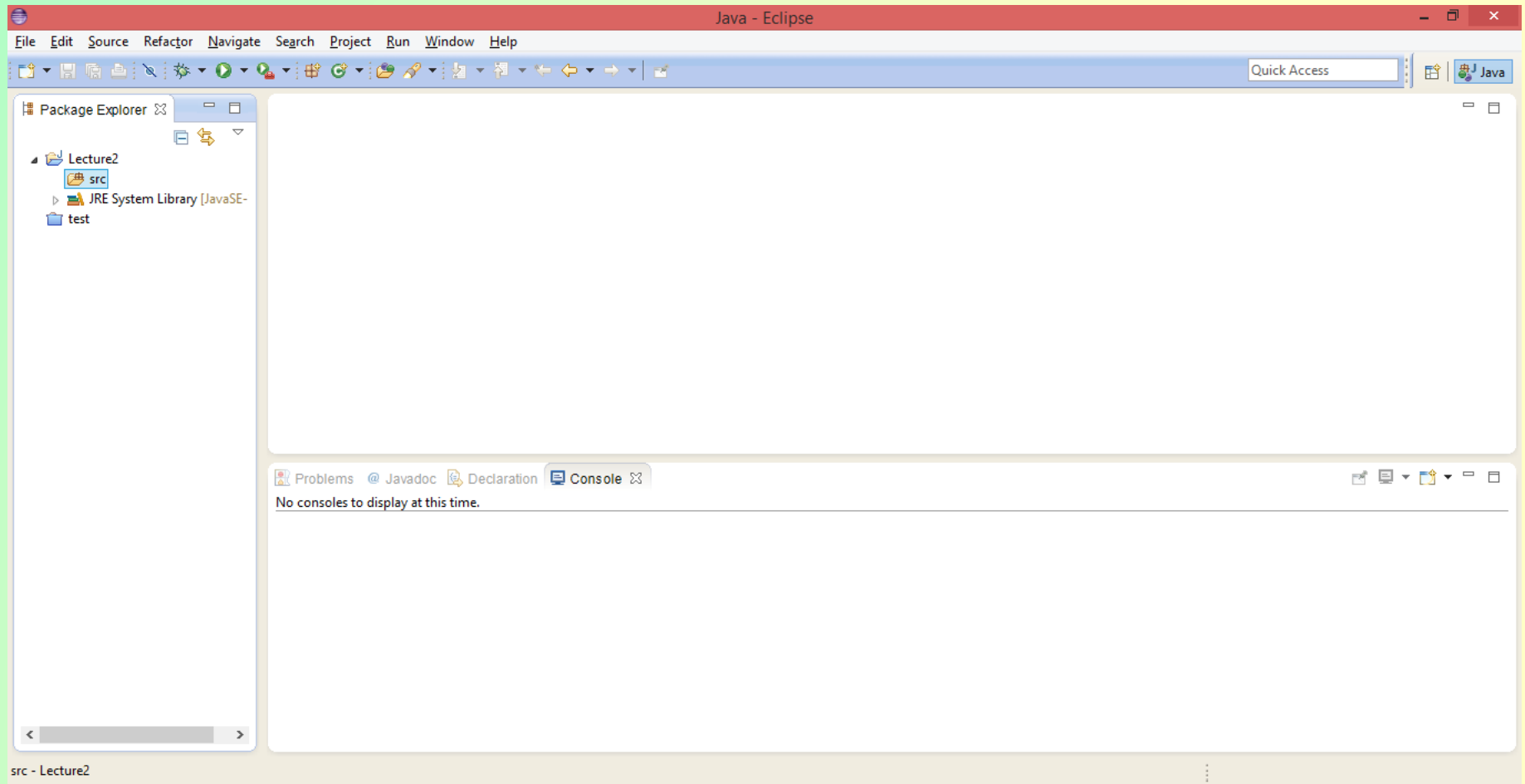
Create a Class

- Expand the Project by clicking the arrow next to the name of the project you just created
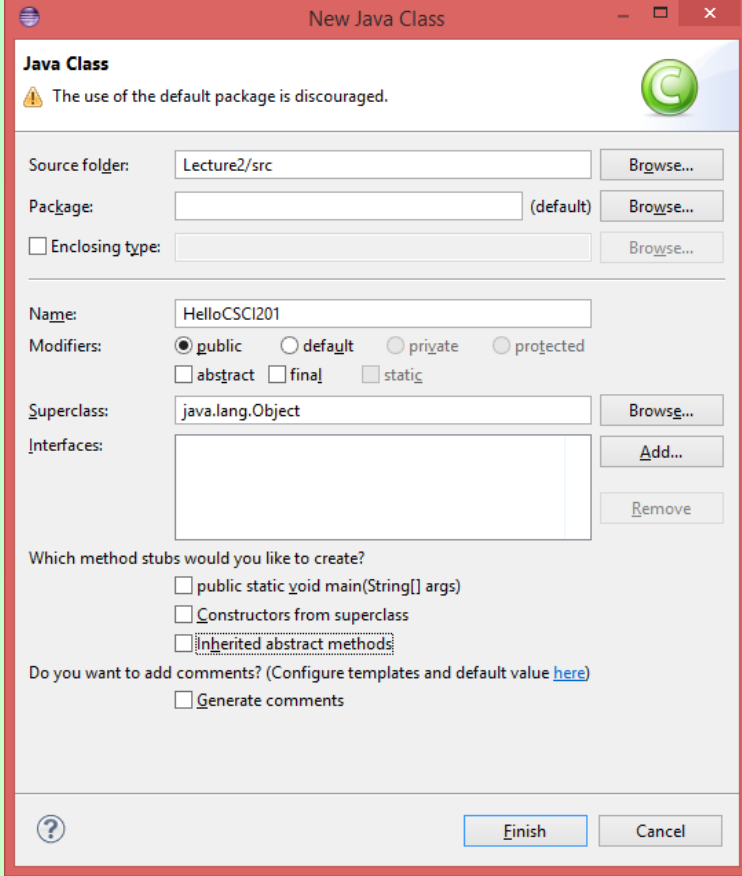
Create a Class

- Right-click on "src" and go to New->Class

Create a Class

- Type a name for the class and uncheck all other boxes (unless you want Eclipse to generate code for you, which is always dangerous), then click Finish

Write Some Code

- You should now have a nearly-blank file and can begin writing code
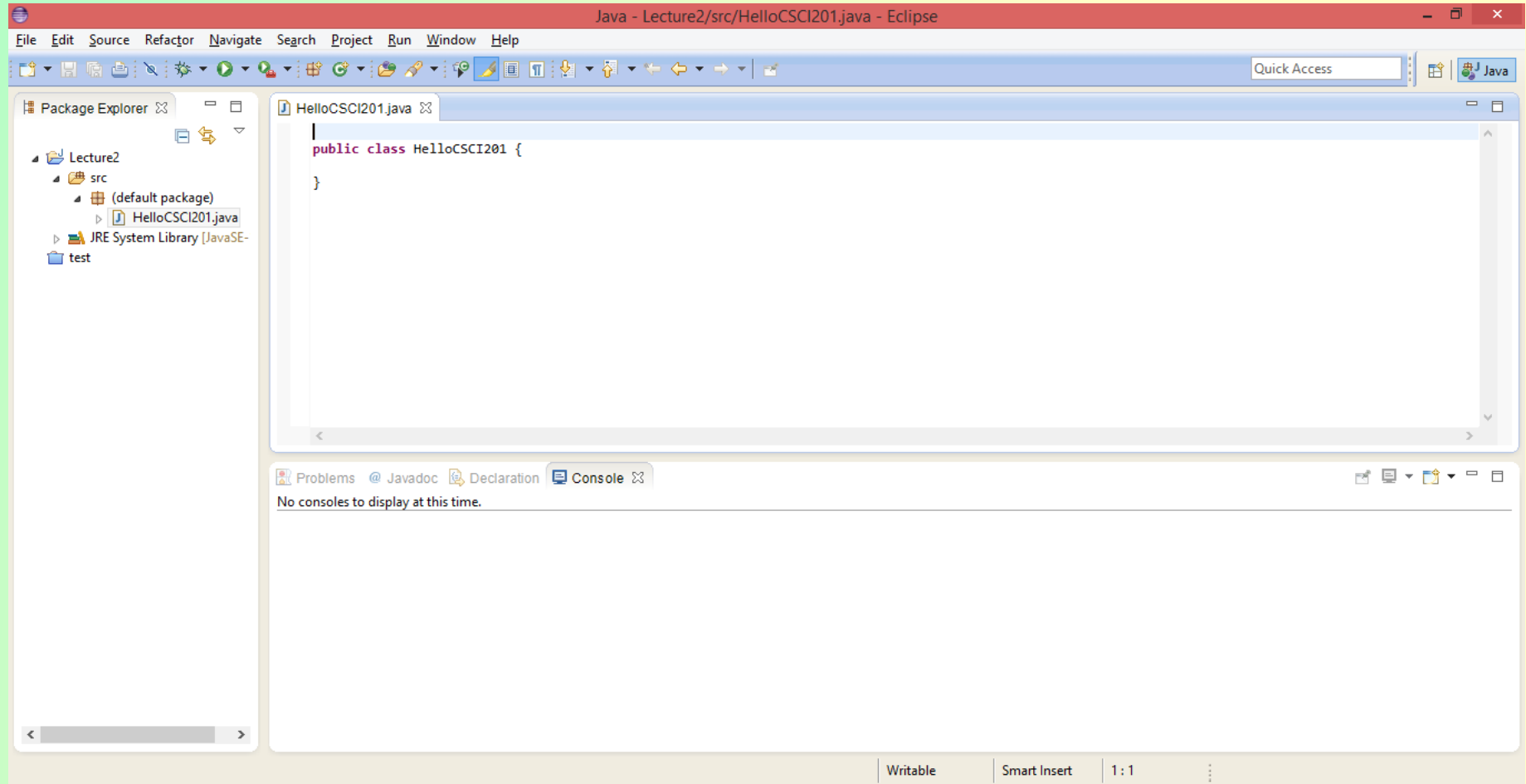
Write Some Code

- Type the following code into the HelloCSCI201.java file

Running the Code

- Click the green play button at the top to run your code
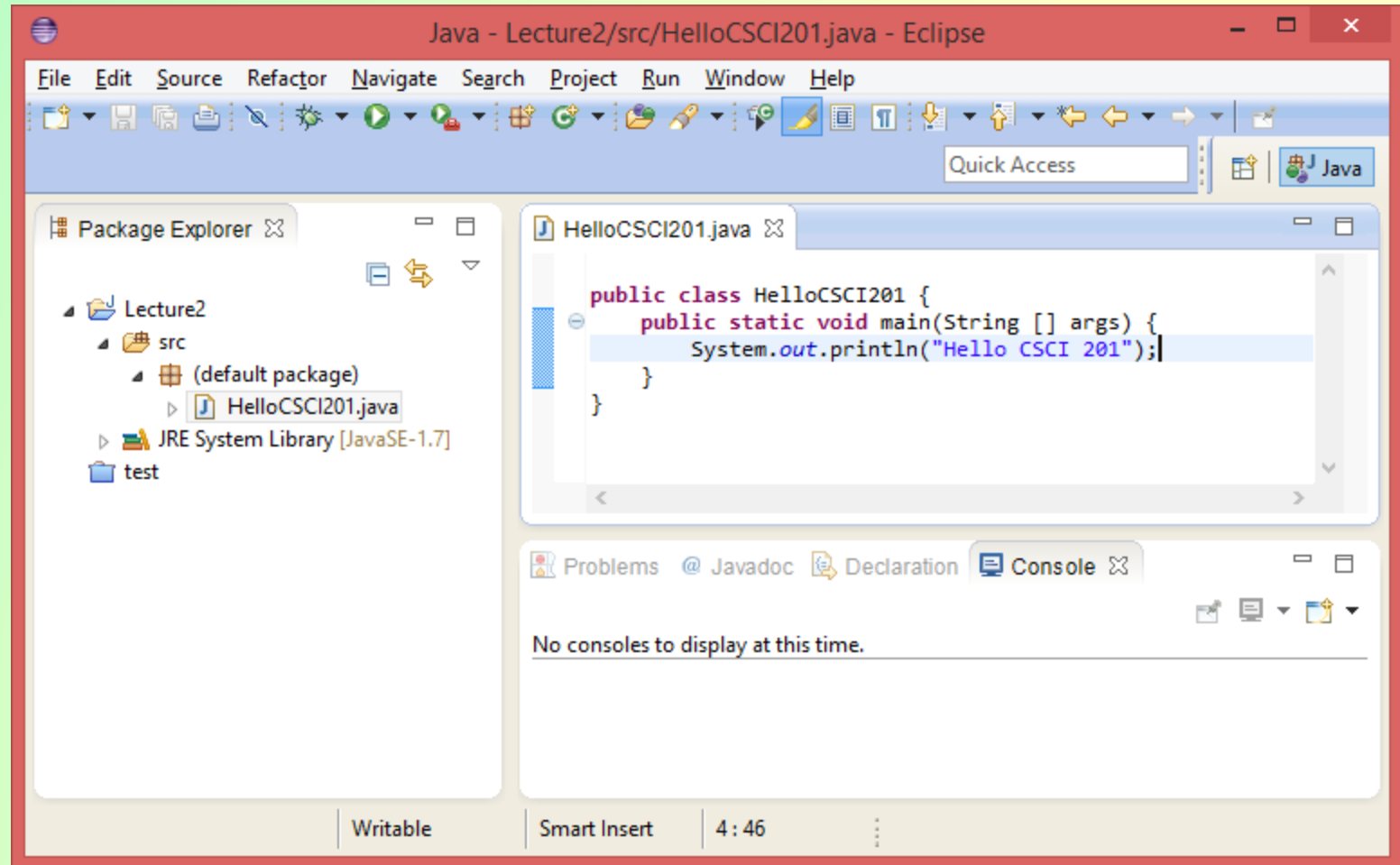 - › If your code doesn't compile, you will have error messages at the bottom of the screen
  - › If your code compiles, your output will be at the bottom of the screen