

## Installing/Configuring Java & Eclipse

If at any point during the installation/set-up process you are having difficulty, please post on Piazza. For something like this, we strongly encourage you to post publicly. Often times, an install problem that you are having is a problem another student might be having as well.

### Part 1: Install Java

- In order to use Java, you need to first install the **Java Development Kit (JDK)**
  - This is the package of tools for *developing* Java-based software
- You'll also need the **Java Runtime Environment (JRE)** which includes the **Java Virtual Machine (JVM)**
  - This is the environment for *running* Java applications
    - The **JVM** is what actually runs compiled Java bytecode
- Download and install the **JDK**, which includes the **JRE**:  
<https://www.oracle.com/java/technologies/downloads/>
  - Download the latest version of the JDK for your OS

### Part 2: Install Eclipse

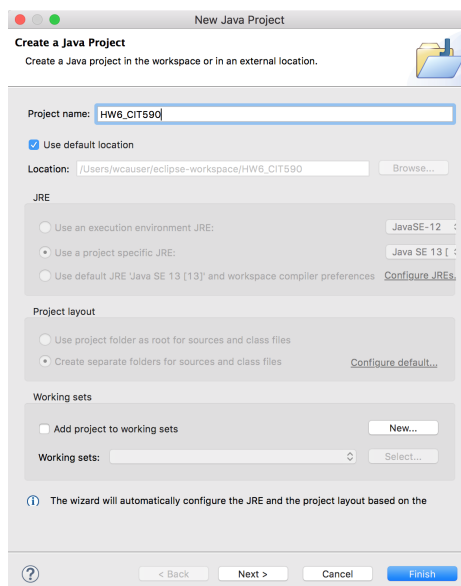
- Install Eclipse via <https://www.eclipse.org/downloads/>
  - Scroll down to locate and download the latest version of Eclipse.
  - Clicking on the link will take you to a final screen where you can download the actual file for installation.
- Once the file has finished downloading, extract the compressed files with the default software on your computer. This will probably happen automatically if you double click the downloaded file.
- Run the Eclipse Installer by double-clicking it or right-clicking and choosing "Open".
- You will be asked what you want to install. Choose "Eclipse IDE for Java Developers".
- Once the installation is complete, launch Eclipse.

- Please pick the default workspace option (unless you have a really strong need to change it and know what you're doing).
- If necessary, close the welcome screen.

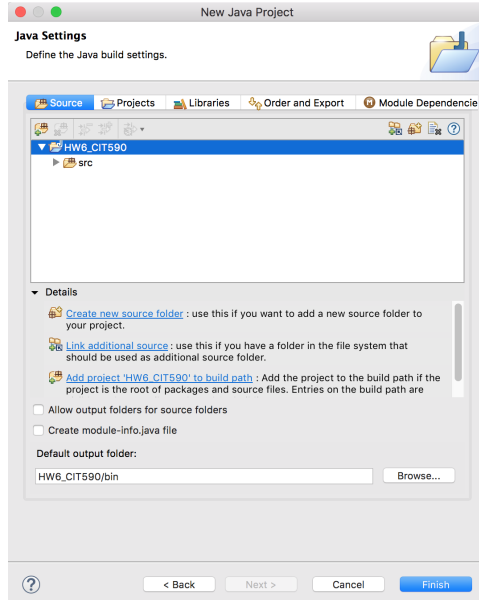
### Part 3: Create a Project

If you closed Eclipse after Part 2, re-open it and if necessary, close the welcome screen.

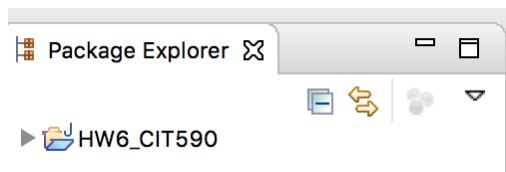
- Create a new project: File → New → Java Project
- For example, name the project “HW7\_CIT590”
- Use the default output folder. Do not edit any of the other project settings in the New Java Project pop-up window -- confirm all of the options match below.



- Click Next
- Uncheck “Create module-info.java file”

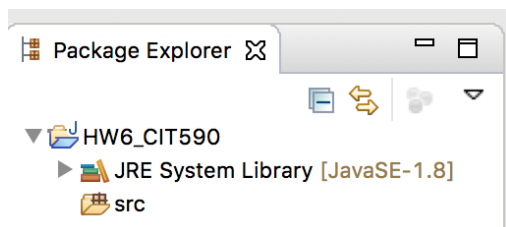


- Click Finish
- The project will appear in the Package Explorer on the left hand side:

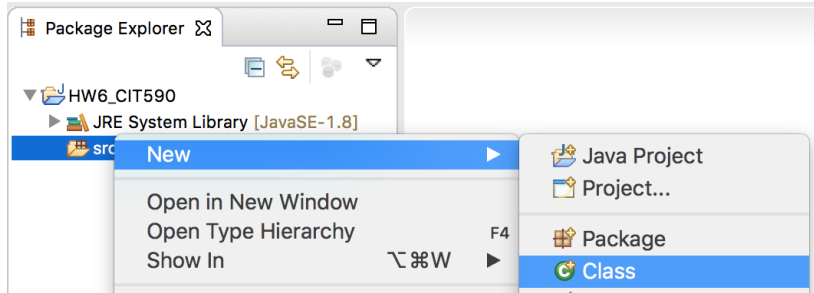


#### Part 4: Create a Class

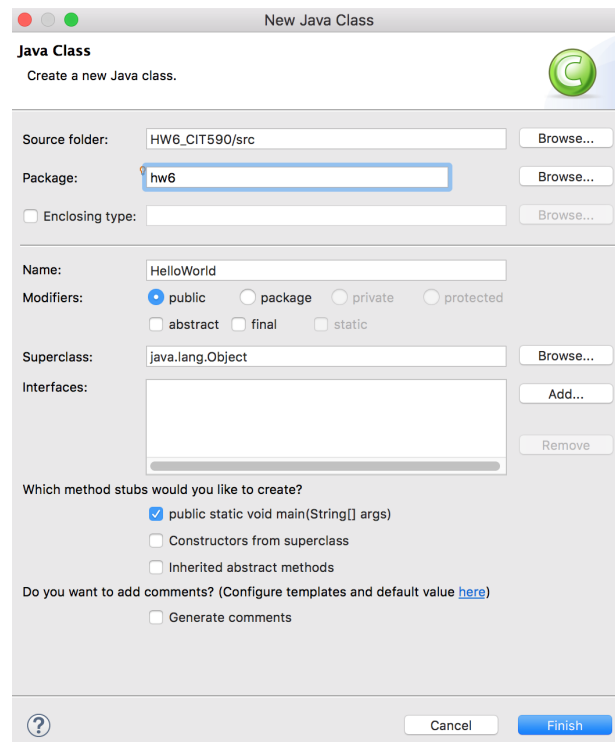
- Click the arrow on the left of the project name to open its contents.



- Right click on the src folder. “src” is short for source.
- Select New → Class

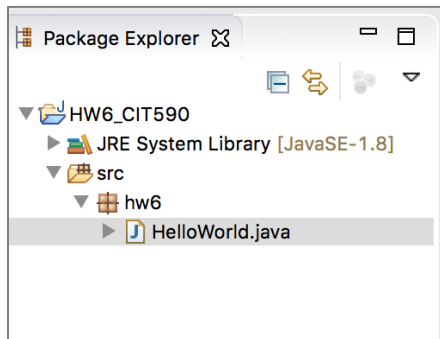


- Create a new Class using the New Java Class pop-up window.
  - For example, name the class “HelloWorld”
  - For example, name the package “hw7”
    - Please enter the class name and package exactly as we have written them. If you change the capitalization or spelling, you will lose points.
  - Check the box that says “public static void main(String[] args)”
  - Uncheck the box that says “Inherited abstract methods”, if it is checked.
  - Confirm all of the options match below.

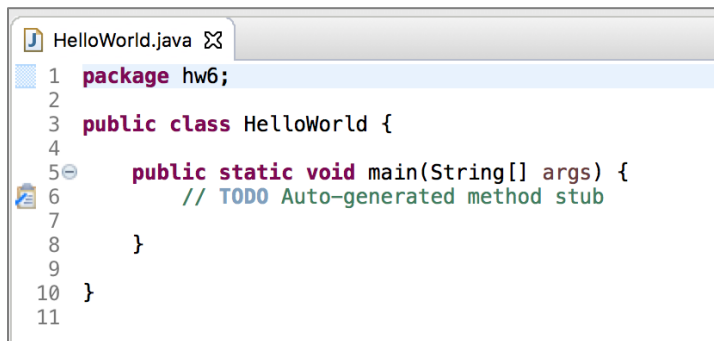


- Click Finish.

- Now, the Package Explorer should look like this:



- And there should be a file open, ready to edit, that looks like this:

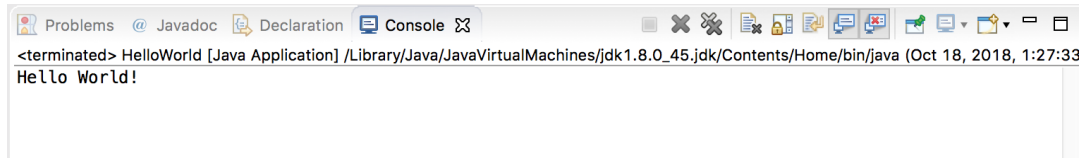


## Part 5: Writing Code in Java

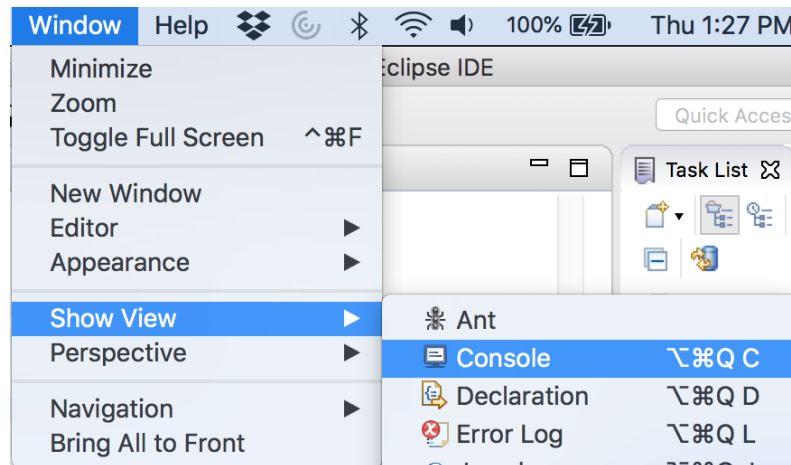
- Inside the *main* method, remove the comment that says:  
// TODO Auto-generated method stub
- Inside the *main* method, write the following line of code:  
System.out.println("Hello, World!");
- Save the file (using the Command-S or Ctrl-S shortcut should work fine).
- In the upper left hand corner, click Run. It's the green circle with the play button.



- The Console should appear in the bottom panel and Hello, World! should be printed there.



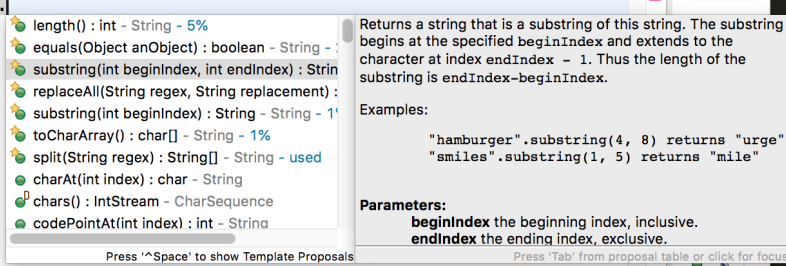
- If you don't see the console, go to Window → Show View → Console



## Getting Help

For some of the code, you may need to look up documentation. The best place to start is in Eclipse itself. If you're coding with a particular type of Object, you can start typing your code and utilize code assist to look up method documentation.

```
1 package hw6;
2
3 import java.util.Scanner;
4
5 public class HelloWorld {
6
7     public static void main(String[] args) {
8
9
10        String fullName = "Brandon Krakowsky";
11        fullName.|
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```



length() : int - String - 5%

equals(Object anObject) : boolean - String -

substring(int beginIndex, int endIndex) : String

replaceAll(String regex, String replacement) :

substring(int beginIndex) : String - String - 1'

toArray() : char[] - String - 1%

split(String regex) : String[] - String - used

charAt(int index) : char - String

chars() : IntStream - CharSequence

codePointAt(int index) : int - String

Returns a string that is a substring of this string. The substring begins at the specified **beginIndex** and extends to the character at index **endIndex** - 1. Thus the length of the substring is **endIndex**-**beginIndex**.

Examples:

"hamburger".substring(4, 8) returns "urge"

"smiles".substring(1, 5) returns "mile"

Parameters:

**beginIndex** the beginning index, inclusive.

**endIndex** the ending index, exclusive.

Press '^Space' to show Template Proposals

Press 'Tab' from proposal table or click for focus

You can also reference the online Java API Specification. For example, here's the documentation for the String class:

<https://docs.oracle.com/en/java/javase/17/docs/api/java.base/java/lang/String.html>