



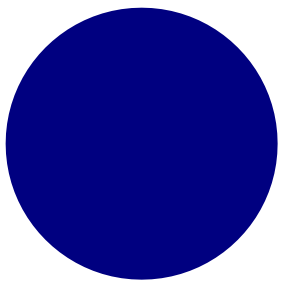
GEOG 178/258:

Conceptual Modeling and Programming for the Geo-Sciences

Week 1: January 8th, 2019

mike johnson



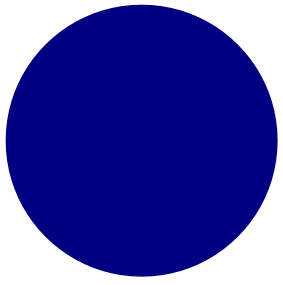


Week

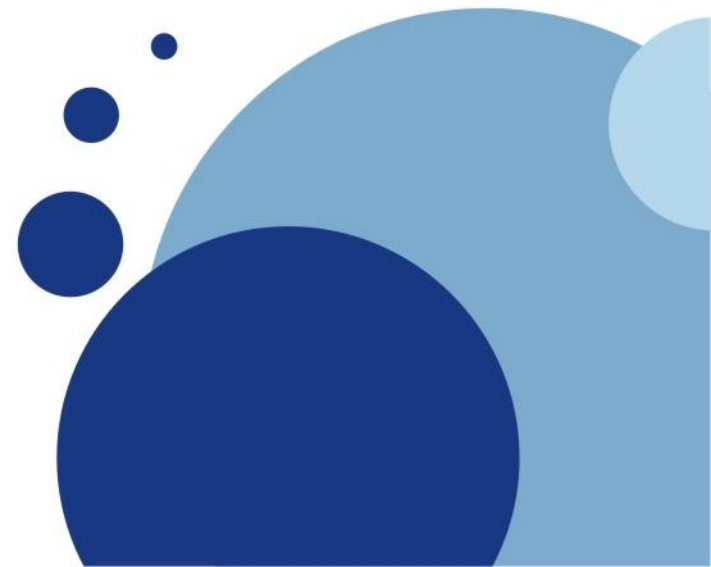
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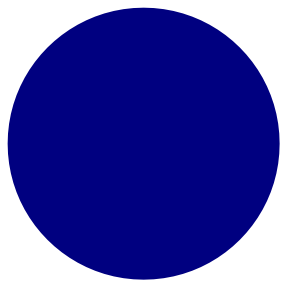
Logistics

- **Instructor:** Krzysztof Janowicz
 - Lecture/Lab: Thursdays 12:00 – 2:50
 - Ellison 3620
- **TA:** Mike Johnson
 - Section: Tuesday 2:00 – 3:50
 - Ellison 3620
 - Office hours:
 - Ellison 1715
 - jmj00@ucsb.edu
- **Class Website:**
 - <https://mikejohnson51.github.io/geog178>



1. Getting set up on lab machines...





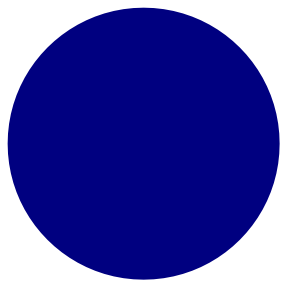
Writing, compiling and executing a Program

Week

1

Getting Started with Eclipse

- There are two methods for compiling and running a Java Program
1. Using a text editor such as Atom or Notepad, and your Terminal (Mac) / Powershell (Windows)
 - This is the approach the textbook takes
 2. Using a dedicated platform such as Eclipse
 - That is the approach we will use in this class
 - This is a IDE which stands for an **I**ntegrated **D**evelopment **E**nvironment
 - IDE's provide tools for coding, building, running and debugging applications



Setting up a Workspace

Week

1

Getting Started with Eclipse

- On your **flash drive** create a new folder called

GEOG_178

- In that folder create a sub-folder called

Week0

- And one another called


Week1

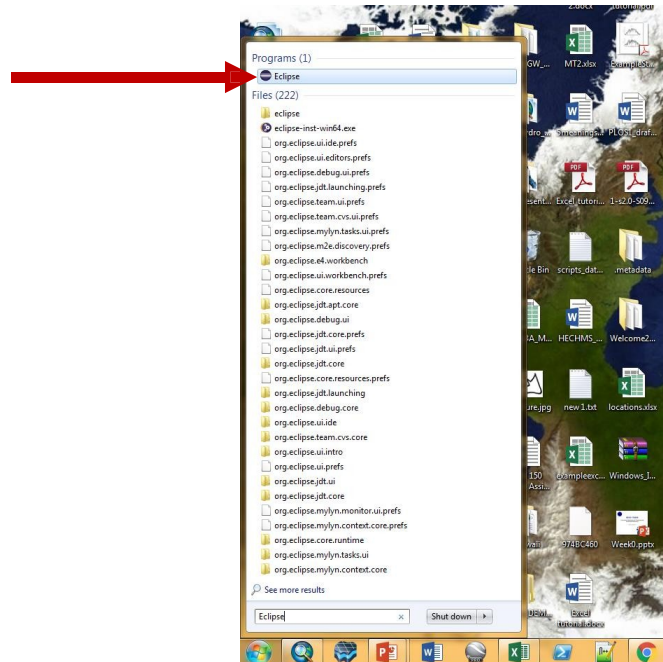
Opening Eclipse in the Lab

Week

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Getting Started with Eclipse

- On the lab machines, hit the home button 
- Type 'Eclipse' in the search bar
- Click on the Eclipse Program File



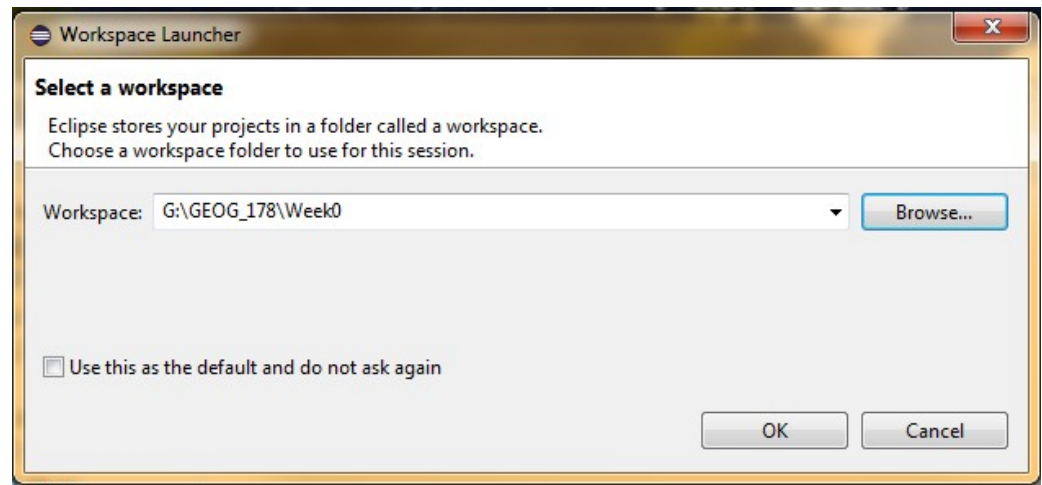
Starting a New Project:

Week

1

Getting Started with Eclipse

- When you launch Eclipse it will ask you to define a **workspace**.
- A **workspace** is where your source code and output will be stored
- Direct your workspace to Week0 using the '*Browse...*' button



- Hit '**OK**' when you are done.

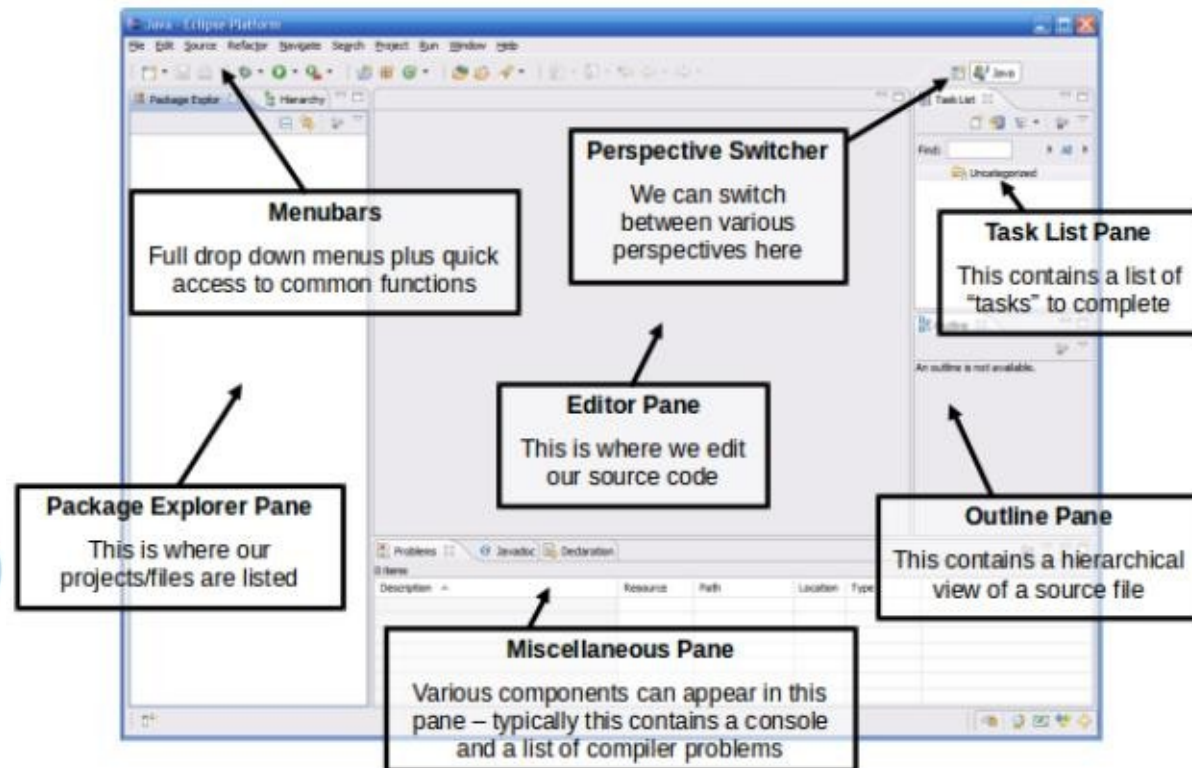
IDE Components:

Week

1

Getting Started with Eclipse

- When your workspace is loaded, you will be presented with the following interface:



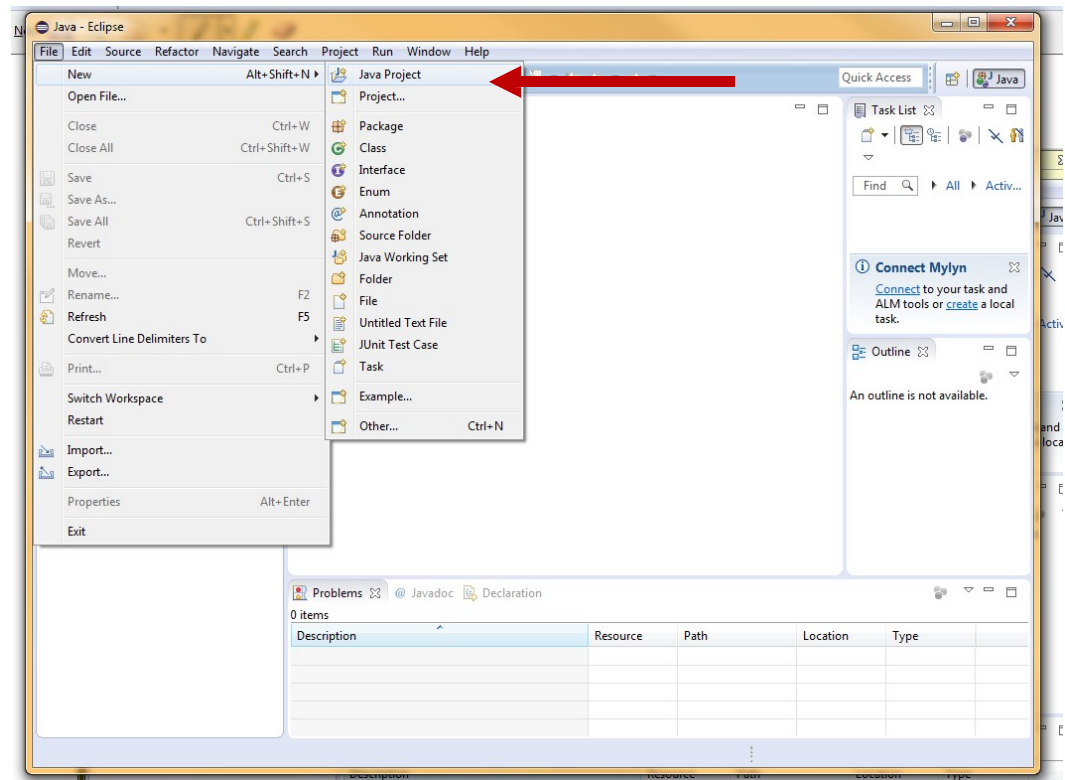
Create a new project

Week

1

Getting Started with Eclipse

- All code in Eclipse needs to live under a project
- To create a project: File → New → Java Project



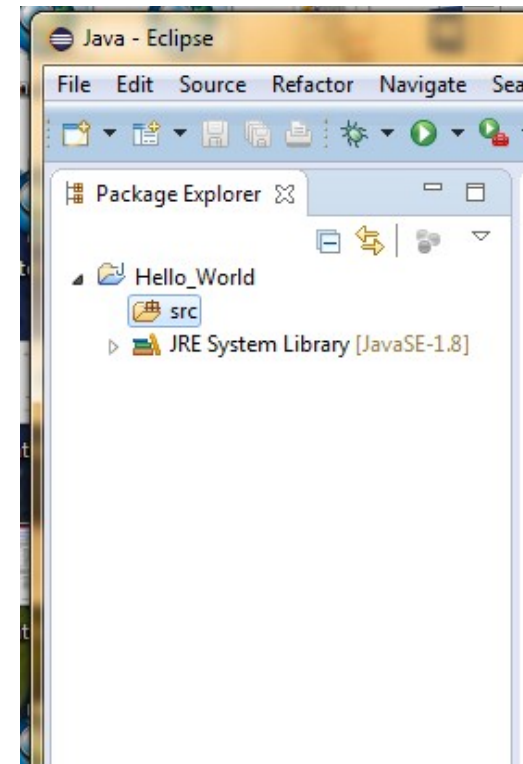
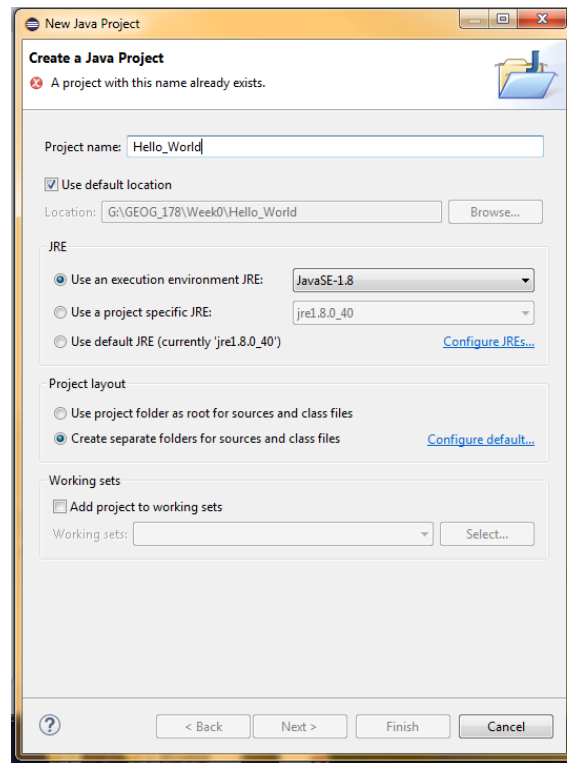
Create a new project

Week

1

Getting Started with Eclipse

- Enter a Name for the Project (**Hello_World**)
- Click “*Finish*”
- The new Project will appear in the **Package Explorer**



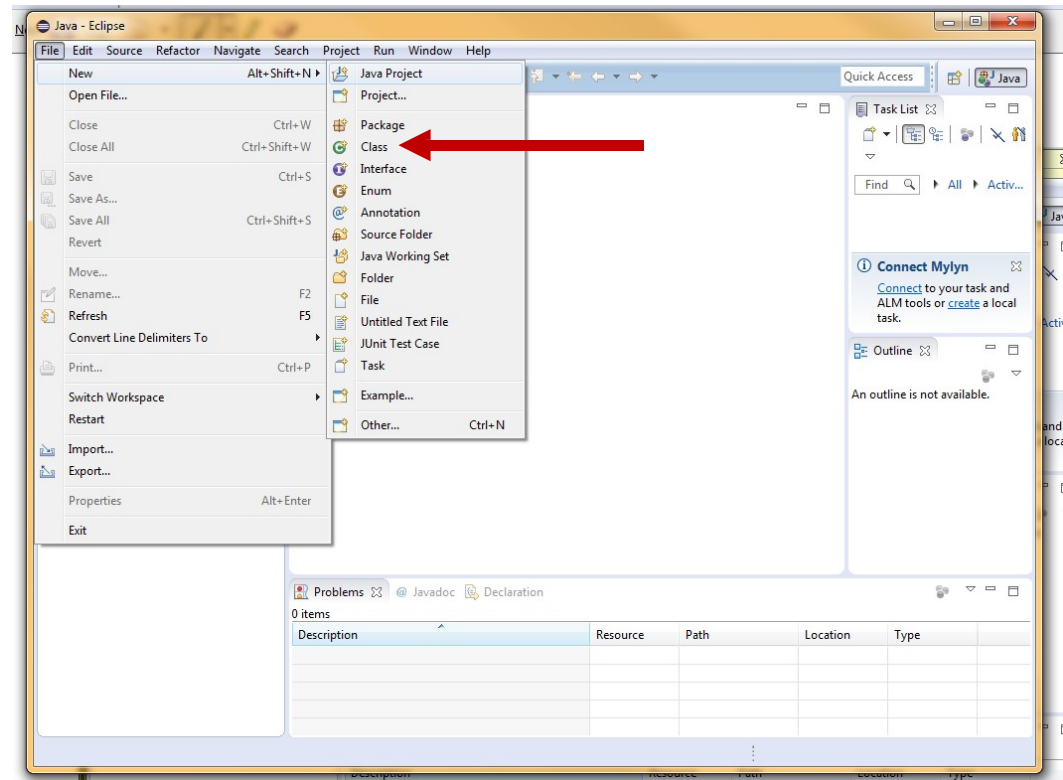
Create a new class

- You will now create your first class within the Java Project

Week

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Getting Started with Eclipse



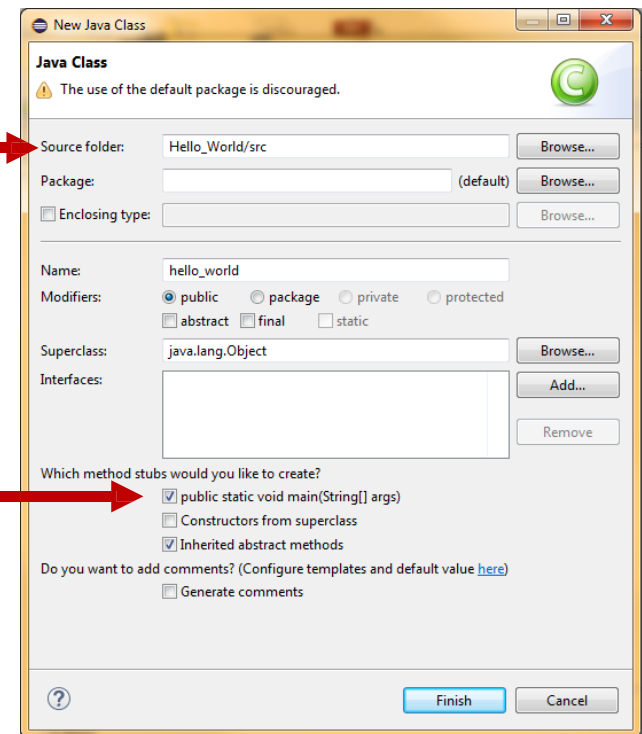
Create a new Class

Week

1

Getting Started with Eclipse

- Enter a Name for the class (**hello_world**)
- You can also specify:
 - package
 - Superclass
 - Whether or not to include a main
 - Etc..
- Fill in necessary information
- Click “Finish”



Interface:

Week

1

Getting Started with Eclipse

- You should see the following

Source is loaded into the editor panel, already stubbed out

Directory structure for package and actual java file created automatically

```
public class locations {  
    public static void main(String[] args) {  
        // TODO Auto-generated method stub  
    }  
}
```

Source is displayed in hierarchical fashion listing each method name

The screenshot shows the Eclipse IDE interface. The Package Explorer on the left shows a project named 'Locations' with a sub-package 'src' containing a file 'locations.java'. The Editor panel in the center displays the source code of 'locations.java', which is a public class with a main method stub. The Outline view on the right shows the class structure, including the 'main(String[]) : void' method. Arrows and text boxes highlight these key elements.

- Be sure to always have your file name match the public class name!*

Enter Basic Command

- In your program type the command

System.out.print("Hello World!");

- It should look like this:

```
public class hello_world {  
    public static void main(String[] args) {  
        // TODO Auto-generated method stub  
        System.out.print( "Hello World!");  
    }  
}
```

- After typing the code, hit the 'run' button:

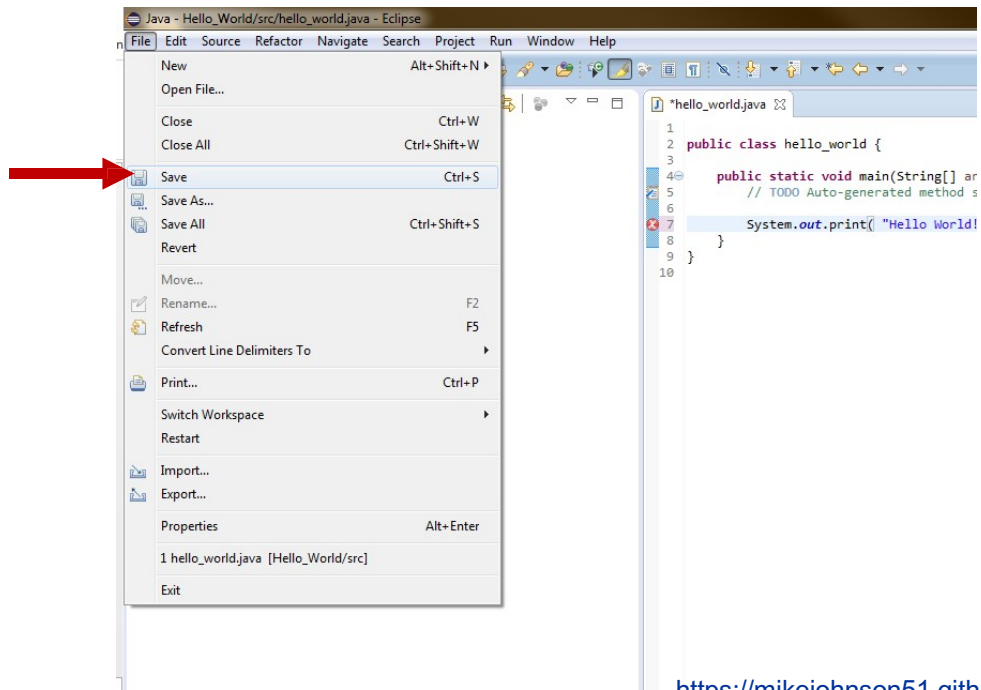


- You should see the following output!

```
<terminated> hello_world [Java Application] C:\Program Files (x86)\Java\jre1.8.0_40\bin\javaw.exe (Jan 10, 2017, 12:14:17 PM)  
Hello World!
```

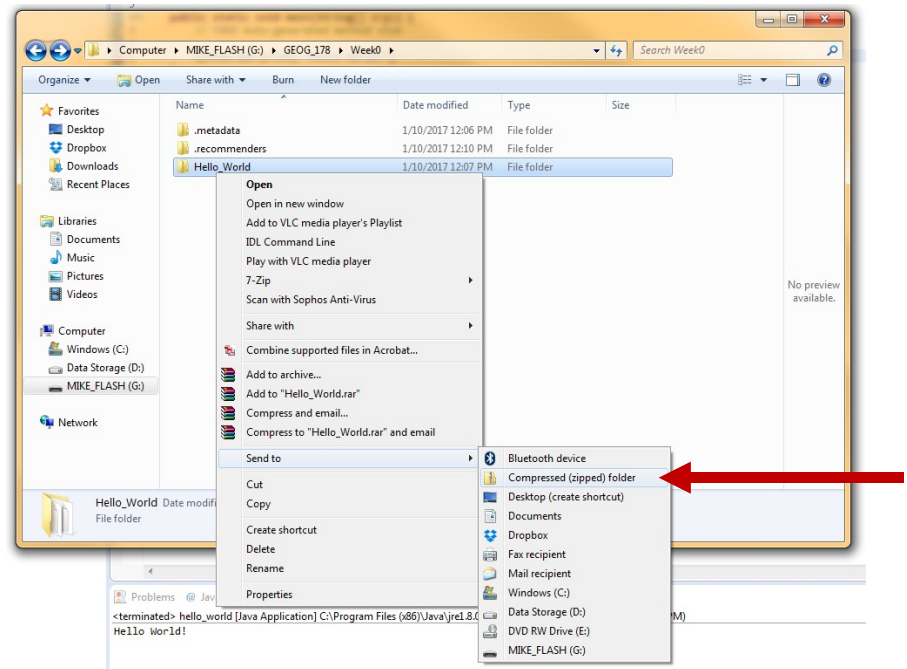
Saving your Program

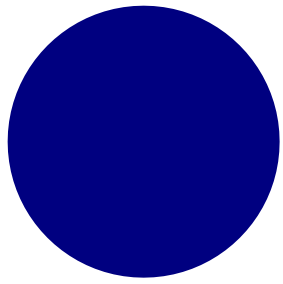
- Running your program will automatically save it
- In cases where you want to save manually go:
- File → Save



Zip Program Folder

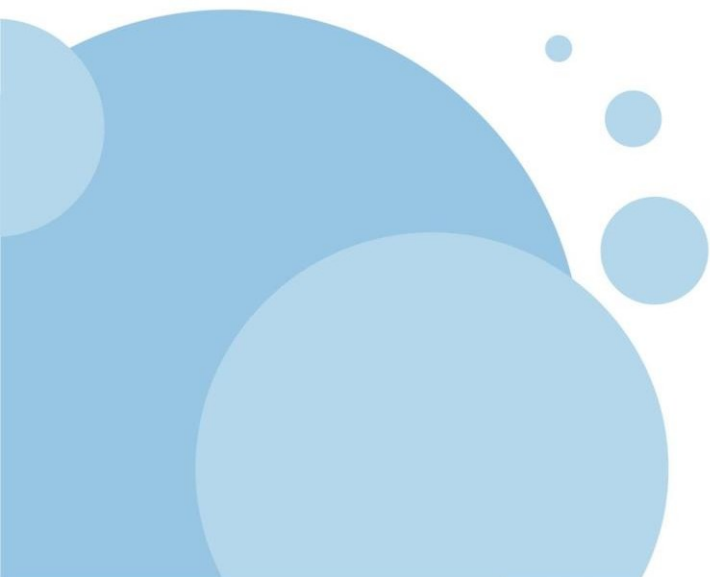
- Program files can be zipped to make them smaller and easier to share!
- ON WINDOWS:
 - Go to your flash drive → GEOG_178 → Week0
 - Right Click on the Folder 'Hello_World'
 - Click 'Send To' → 'Compressed (zipped) folder'

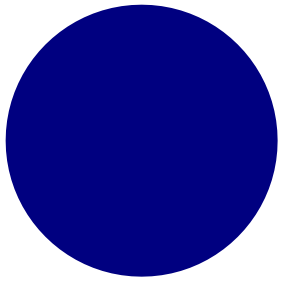




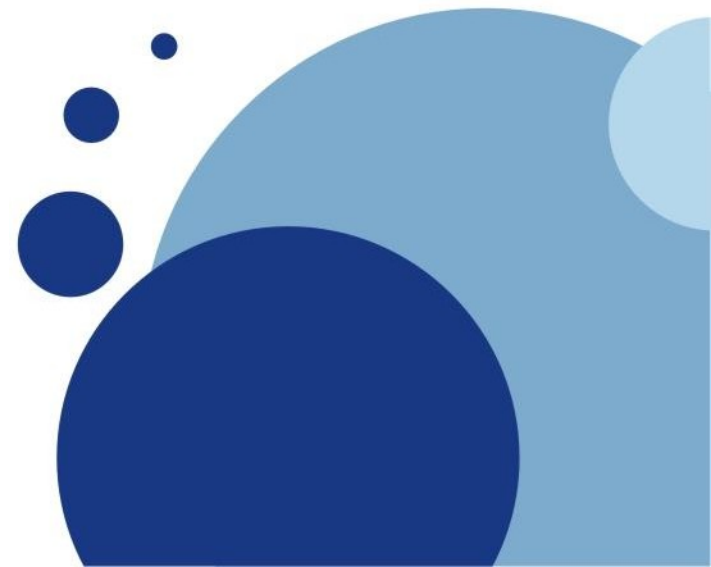
Zip Program Folder

- ON MAC:
 - Go to your flash drive → GEOG_178 → Week0
 - Right Click on the Folder 'Hello_World'
 - Click 'Compress "Hello_World"'
- You now have a zipped folder that will be easier to share with others!





2. Getting set up on your machines...



Necessary Downloads:

Week

1

Getting Started with Eclipse

1. To get set up on a personal machine, you need the Eclipse Program files. They can be found here:

<https://www.eclipse.org/downloads/>

Or through the section website:

Weekly Info:

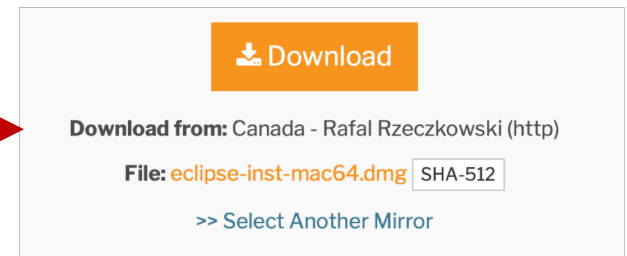
Week 1: Installs

[Section slides](#)

[Java JDK SE Download](#)

[Eclipse IDE Download](#)

2. From the Eclipse main page download the zip file from the series of download buttons:





Installing

Week

1

Getting Started with Eclipse



- From the unzipped download folder try and install Eclipse
 - On Windows → select the 'eclipse-inst-win64.exe' file
 - On Mac → select the 'eclipse-inst-mac64.tar.gz' file
- Follow all instructions
- *Does it Error Out???*
- Eclipse is written in Java so you may need to download the **Java SE JDK**** if it is not already on your machine

**JDK: Java Development Toolkit which includes JRE (Java Runtime Environment), an interpreter/loader (java), a compiler (javac), an archiver (jar) and a documentation generator (javadoc)

Installing Java JDK

Week

1

Getting Started with Eclipse

1. The Java SE JDK download can be found here:

<https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

Or on the section webpage:

Weekly Info:

Week 1: Installs

[Section slides](#)

[Java JDK SE Download](#)

[Eclipse IDE Download](#)

2. Be sure to accept the License Agreement and download:

Java SE Development Kit 8u191		
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.		
	<input checked="" type="radio"/> Accept License Agreement	<input type="radio"/> Decline License Agreement
Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	72.97 MB	jdk-8u191-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	69.92 MB	jdk-8u191-linux-arm64-vfp-hflt.tar.gz
Linux x86	170.89 MB	jdk-8u191-linux-i586.rpm
Linux x86	185.69 MB	jdk-8u191-linux-i586.tar.gz
Linux x64	167.99 MB	jdk-8u191-linux-x64.rpm
Linux x64	182.87 MB	jdk-8u191-linux-x64.tar.gz
Mac OS X x64	245.92 MB	jdk-8u191-macosx-x64.dmg
Solaris SPARC 64-bit (SVR4 package)	133.04 MB	jdk-8u191-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	94.28 MB	jdk-8u191-solaris-sparcv9.tar.gz
Solaris x64 (SVR4 package)	134.04 MB	jdk-8u191-solaris-x64.tar.Z
Solaris x64	92.13 MB	jdk-8u191-solaris-x64.tar.gz
Windows x86	197.34 MB	jdk-8u191-windows-i586.exe
Windows x64	207.22 MB	jdk-8u191-windows-x64.exe

3. Unzip, follow all instructions, and then install Eclipse again ...

<https://mikejohnson51.github.io/geog178>

Launch Eclipse !!

