ICSI201-F22: Lab 0

Setting up your developer environment, writing your first program, and getting familiar with course tools

Overview and Lab Objectives

In this lab you will write a simple HelloWorld program in Java. The goal of this lab is to (1) get you set up with your developer environment, (2) write your first program, (3) learn how to submit your work and (4) get familiar with two essential tools we will be using this semester: Piazza and Socrative.

The ICSI201 labs are designed to train you in practical programming skills and will serve as a reference guide throughout the semester. For example, you can always refer to Lab 0 if you forget how to create a new Eclipse project or submit your work. These routines will be consistent for the entire semester.

Upon completion of this lab, you will be asked to submit a report via Blackboard. More details are available later in this document and in the report assignment.

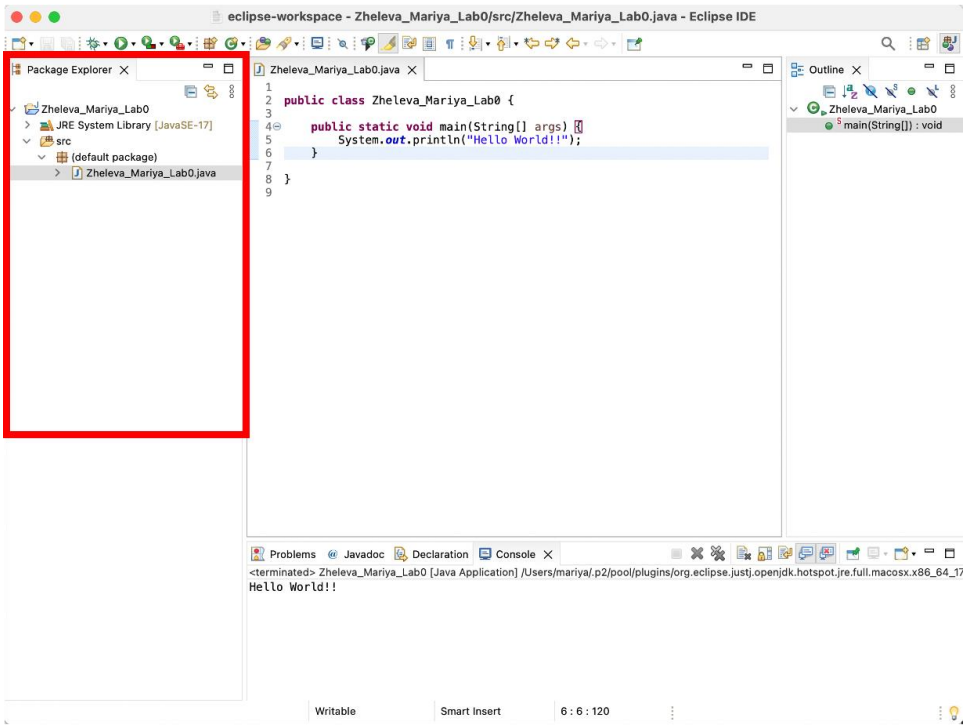
Step 1: Installing Eclipse

1. Download Eclipse from https://www.eclipse.org/downloads/
2. Click on the Eclipse installer.
3. Choose Eclipse IDE for Java Developers. Follow the prompts to install the program. Use the default settings proposed by the installer.

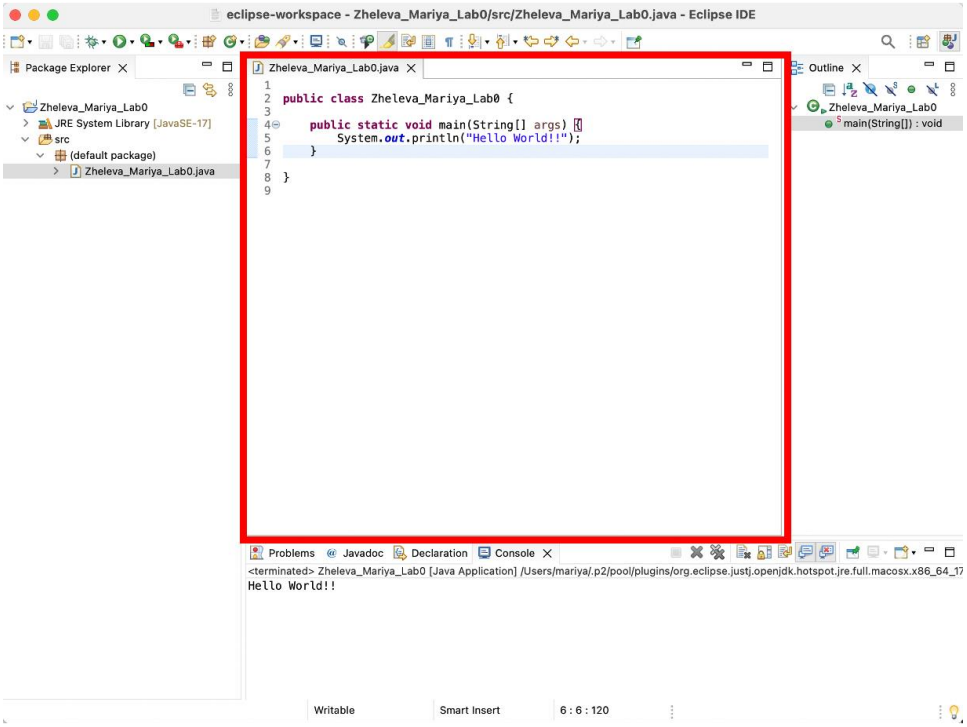
Step 2: Creating your first project

1. Launch Eclipse. The first time you do this, you will be asked to choose a workspace directory. You will be offered a default directory and I suggest you pick that. The default directory for MAC users is /Users/<your-username>/eclipse-workspace. Make a note of this directory. That's where you'll go to fetch your code and submit it for grading. More on this later in the assignment. At this point, you should be seeing the Eclipse Welcome page.

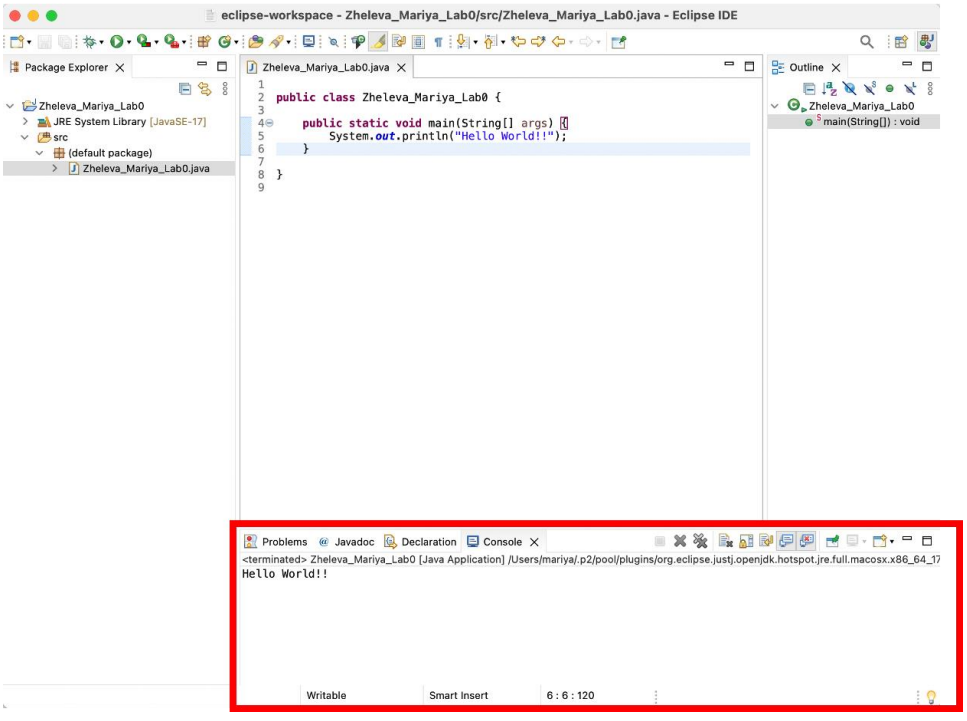
2. Create your project. From the top menu select `File>New>Java Project`. You will be prompted to provide a name for your project. The naming convention for all programming assignments this semester (i.e. labs and projects) will be <your-last-name>_<your-first-name>_<lab-number>. For example, my `HelloWorld` project for Lab 0 will be titled `Zheleva_Mariya_Lab0`. Finally, please deselect the checkbox `Create module-info.java` file, so that you have full control over how you create your classes. Hit the Finish button to complete the creation of your project.
3. Familiarize yourself with the Eclipse Workspace view. Now that you have created your project it is time to get familiar with the Eclipse workspace and the tools it provides you. Here we cover the minimum necessary for you to start using Eclipse. We will build on this knowledge as the semester progresses.
    a. ***The Package Explorer*** lets you navigate across the files in your project.



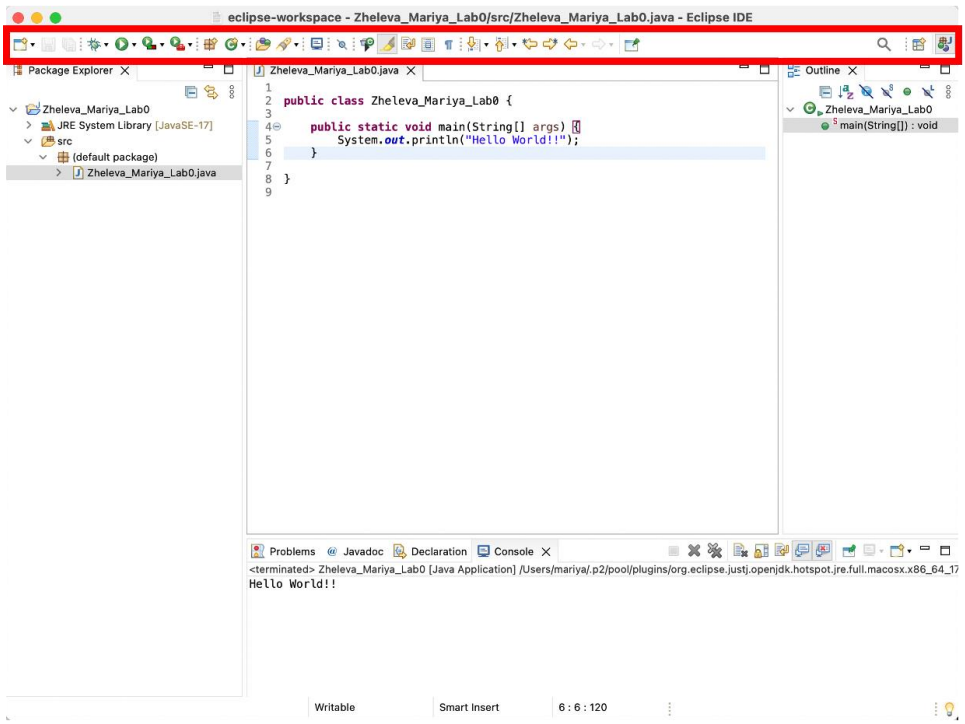
    b. ***The Code Editor*** lets you edit your programs.



c. ***The Console*** will display output from your code execution.



d. ***The Control Line*** located at the top of the Eclipse view, lets you debug and execute your programs.



4. Create your first class. Click on the tiny triangle to the right of your project name in order to expand the file contents for your project. You should see two sub-directories: `JRE System Library` and `src`.
    e. `JRE System Library`. This is a folder that links the Java Runtime Environment (JRE) to your project. This happens automatically with every project you create in Eclipse, and it gives you all the Java tools you need in order to create, compile and run your program. If you are curious, you can click to expand this folder.
    f. `src`. This is the folder in which you will be writing your code. Ordinarily, you would be creating one code file (also referred to as a `class`) for each functional component of your program.

Now that you know what constitutes the file structure of your project, let us create your first class. Right-click on the `src` folder and select `New>Class`. Specify a name for your Java class following our established naming conventions (i.e. your class name should be `<your-last-name>_<your-first-name>_Lab0.java`).

5. Write your program. Having created your .java file, you are likely seeing the shell of a class titled `<your-last-name>_<your-first-name>_Lab0.java`. For my program, this looks as follows:

```
public class Zheleva_Mariya_Lab0 {

}
```

We will now implement the code necessary to make your program display the string "Hello World!!". Enhance your program with the highlighted text below using the *Code Editor*:

```
public class <LastName>_<FirstName>_Lab0 {
    public static void main(String[] args) {
        System.out.println("Hello World!!");
    }
}
```

6. Run your program. Look through the *Control Line* and find the Run button (green circle with a white triangle in it). Press it. If your program has no errors, it should execute and display "Hello World!!" in the console.

Step 3: Submitting a project

Once you have completed all the tasks so far, head over to Balckboard in order to submit your lab report. The report is structured as a Blackboard test with short-answer, file-response, multiple-answer, and other types of questions. Each student should submit a report for this lab.

Step 4: Participating in online discussions

Your main point of contact with course staff outside of class, labs and office hours will be Piazza. Please, avoid sending emails, as this will slow down our response times. We will be using Piazza as a public forum for technical discussions related to our class. Please, spend some time now to sign-up to our Piazza forum and familiarize yourself with the structure.

Piazza sign-up link: http://piazza.com/university_at_albany/fall2022/csi201

Piazza access code: csi201

Step 5: Taking attendance

Lab attendance is mandatory, and we will be tracking attendance with each lab using Socrative Exit Tickets. You can use Socrative either through your web browser or as an app on your phone (available both on the iPhone and Android markets). The last couple of minutes from each lab will be saved for you to complete the Exit Ticket. Let's give it a try.

Go to https://www.socrative.com/#login and click on **Student Login**. You will then be asked to specify a Room Name. Your room name depends on the number and time of your lab section. Please, pick your room from the list below:

Lab #	Day/time	Location	Socrative room	Direct URL
9662	W 03:00_PM-05:50_PM	ETEC B007	9662W300	
3857	M 09:30_AM-10:25_AM	HU133	3857M930	https://api.socrative.com/rc/QkkWTk
3858	TH 04:30_PM-05:25_PM	Earth Sci. 242	3858TH430	https://api.socrative.com/rc/nzCLpd
3859	W 09:30_AM-10:25_AM	HU133	3859W930	https://api.socrative.com/rc/eTwgJ9
3860	M 11:40_AM-12:35_PM	LC13	3860M1140	https://api.socrative.com/rc/Tssg27
3861	F 11:40_AM-12:35_PM	Chem 151	3861F1140	https://api.socrative.com/rc/FvJXSt
4375	F 09:30_AM-10:25_AM	HU133	4375F930	https://api.socrative.com/rc/J8LNqL

Once you are in the room, you will be asked a sequence of 4 questions. Please, pay close attention to make sure you are inputting the correct information. Incorrectly filled tickets will cost you attendance credit. The questions you will be asked are:

1. Enter your name in the format `Last, First` – ***make sure this is correct*** or we won't know that it was you attending the lab. You should enter your name as it appears on Blackboard.
2. How well did you understand today's material? -- closed-form question. Pick the answer that best describes your understanding of the material.
3. What did you learn in today's class? -- state the topic of the lab in your own words.
4. Please answer the teacher's question – this will be posted at the end of the lab section by your instructor.