

Java Data Types - Introduction to Eclipse and Power Function

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1 SUMMARY

The goal of this homework is to setup your coding environment in eclipse, and to write a very simple program. You will do the following:

1. Download and install eclipse, setup a new project.
2. Implement a simple program that computes the power function.
3. **FILES TO DOWNLOAD:** None
4. **FILE TO SUBMIT:** Power.java

1.1 DOWNLOAD AND INSTALL ECLIPSE

Eclipse is an Integrated Development Environment (IDE) for Java developers. An IDE allows programmers to code in an environment containing more advanced features than a text-editor. Eclipse also provides easy tools for managing projects, compiling code, incorporating outside libraries, etc. Your first step is to download Eclipse. You should be able to find it [here](#).

When you first open Eclipse, you might (depending on your version) see a welcome / tutorial screen (see figure ??). If you see this screen, click on **Workbench** in the upper right corner to get to your primary work area. Your workbench, once you find it, should look like figure ??.

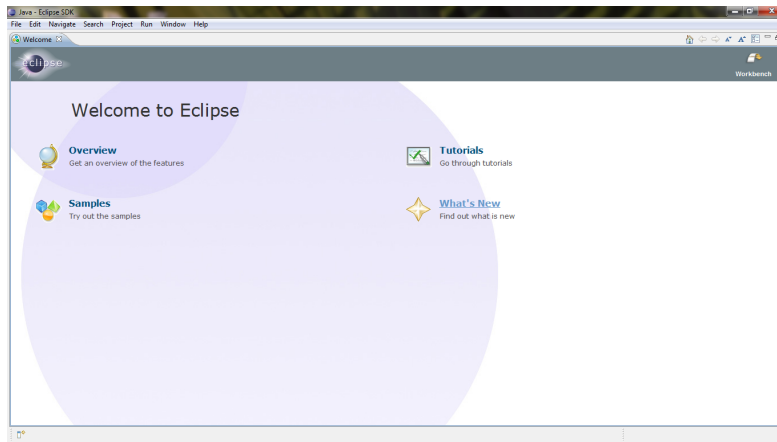


Figure 1.1: Eclipse welcome screen

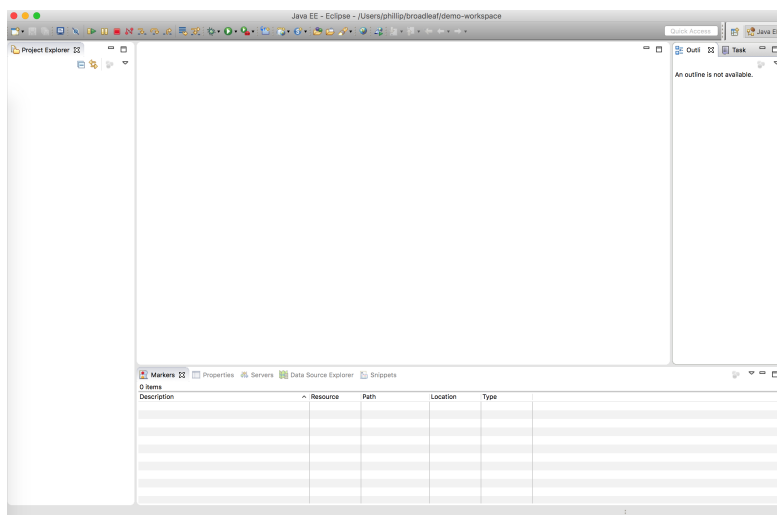


Figure 1.2: Eclipse Workspace / Workbench

To start a new project, click on **File -> New -> Java Project**. A dialog will appear. You should give your project a name, select a folder for it (optional), and click finish. You should see your project appear in the left hand dialog of the screen. If you expand the project, you should see a reference to your Java system library, as well as a folder called **src**.

Your next task is create your first Java class. Right click on your project on the left and select

New -> Class. A dialog will appear (see figure ??), name your class **Power**, and select the check box that says **public static void main(String[] args)**. this option will create a main method automatically (though if you forget to do this, you can just type in the main method code manually).

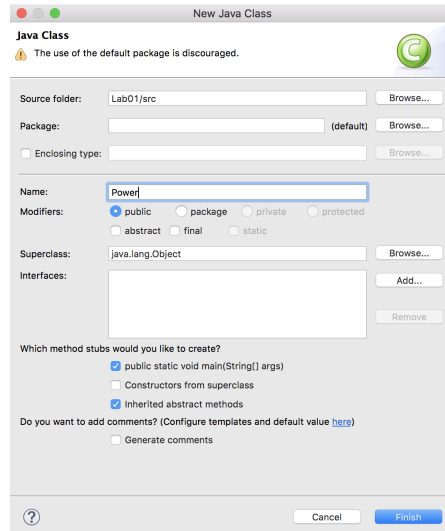


Figure 1.3: New Class Dialog Screen

You are ready to begin coding. For this homework, you will only need the one class, and you can write all of your code in this area. To run your program, there is a small green bug icon at the top of the screen.

1.2 POWER.JAVA

Now that your environment is setup, you will write one very small Java method as a warm-up. The method signature is:

```
1 public static long power(int base, int exp);
```

Your program should take in two numbers for the user. First, the base and second, the exponent. Then, your program should invoke the power method above and present the user (via the console) the value of base to the exponent power. You can assume that when we test your code, all inputs will fit inside of int types, and all correct answers will fit inside of long types. This method may be iterative or recursive, but **may not use any library functions such as Math.pow()**.