CS161: Introduction to Computer Science
Lab Assignment 3

The goal of today’s lab is to familiarize you with writing and executing methods.

You should begin by creating a BlueJ project called lab3. Make sure you create this new project inside of your cs161 directory.

1 Warm Up

1. Read through the code below. In the README file, write down what is printed to the console when the main() method is executed.

```java
public class MethodExecution{
    public static void method(String name, int age){
        System.out.println("The formal parameters have value: " + name + " and " + age);
        name = "XXX";
        age = -1;
        System.out.println("The formal parameters have value: " + name + " and " + age);
    }

    public static void main(String[] args){
        // Call the method passing in literal values
        method("Sarah", 20);

        // Call the method passing in variables
        String name = "Anne";
        int age = 19;
        System.out.println("The actual inputs have value: " + name + " and " + age);
        method(name, age);
        System.out.println("The actual inputs have value: " + name + " and " + age);
    }
}
```

Now check that your answer is correct by creating a new Java class and copying the code over. Run the main() method to see what prints to the console.

2. Create a new Java class called ArithmeticUpdated. Inside, rewrite the code from lab 2 using methods this time. That is, put each of the 3 exercises into its own method instead of having all of your code inside of the main() method.

   • The first method should take in the radius of a circle and print the circumference and area.

   • The second method should take in some amount of Japanese yen and print the equivalent amount of US dollars.
• The third method should take in a person’s weight and a gravitational factor and return the
  person’s new weight.

In the main() method, call each of the methods. You should add print statements so that when I run
your code it is clear what method is being called, what input arguments (if any) are being passed in,
and what value (if any) was returned.

2 Writing Your Own Methods

Create a new Java class named Methods. Inside, complete the following exercises:

1. Write a method that takes in no input arguments and returns no value
2. Write a method that takes in one or more input arguments but returns no value
3. Write a method that takes in no input arguments but returns a value
4. Write a method that takes in one or more input arguments are returns a value

Your methods should be sensible and have a purpose. In the main() method, call each of the methods. You
should add print statements so that when I run your code it is clear what method is being called, what input
arguments (if any) are being passed in, and what value (if any) was returned.

3 Submitting your lab assignment

Rename your lab3 folder using both people’s first and last names. For example,

lab3_John_Doe_Jane_Doe

Please rename your folder before you zip it.