5.2 – Implementing Methods – Day 2

Yesterday we learned about methods and how to implement methods. Today you will practice writing your own method headers, and you will write two programs that contain a method and return a value back to the main().

- For problem #1, create a word document and upload it to GitHub.
- For problems #2 and #3, write a java program and upload it to GitHub. Name problem #2 middleCharacter.java and problem #3 bankBalance.java

To get your started, here are two example.

Example 1: Write a method header for computing the larger of two integers.

Answer: public static int larger(int num1, int num2)

Remember, we always need to

- pick a name – **larger**
- declare a variable for each argument – **int num1** and **int num2** – these are the parameter variable
- specify the return value – **int** (this is the int that appears before larger)
- add the **public static** modifiers

Example 2: Write a method header for computing the smallest of three floating-point numbers

Answer: public double smallest(double num1, double num2, double num3)

1. Write **method headers** for methods with the following descriptions.
    a. Computing the smaller of two integers
    b. Computing the largest of three floating-point numbers
    c. Checking whether an integer is a prime number, returning true if it is and false otherwise
    d. Checking whether a string is contained inside another string
    e. Computing the balance of an account with a given initial balance, and annual interest rate, and a number of years of earning interest
    f. Printing the balance of an account with a given initial balance and an annual interest rate over a given number of years
    g. Printing the calendar for a given month and year
    h. Computing the weekday for a given day, month, and year (as a string such as "Monday")
    i. Generating the random integer between 1 and n

2. Write a program that contains a method

    public static String middle(String str)

    that returns a string containing the middle character in str if the length of str is odd, or the two middle characters if the length is even. For example, middle("middle") returns "dd" and middle("cat") returns "a".

    Please note, you are not limited to one parameter variable. Add additional parameter variables to your method if you need to.

3. Write a program that contains a method that computes the balance of a bank account with a given initial balance and interest rate, after a given number of years. Assume interest is compounded yearly.

    Steps to get your started:

- Inside of your main(), you are going to ask the user for their initial balance, the interest rate, and the number of years.
- You will then create a variable that calls on the method that you're creating.
- Create the new method below the main() in your code. Call it something like *balance* or *balanceAccount*
- Calculate the interest inside of your new method and return the balance back to the main().