**Chapter 6 Programming Exercises – Defining Methods**

1. Define methods for the following and invoke the calls in main.
   1. average: accepts nothing, returns nothing
      1. ask the user for 4 numbers, then display the average
   2. largest: accepts 3 ints: n1, n2, n3, returns an int: largest
      1. ask the user for 3 whole numbers, then display the largest number
   3. shipping: accepts a double: weight, returns a double: shippingRate
      1. asks the user for the weight of the package, if the weight is over 100 pounds, add $10.00 to the standard shipping rate of $6.70
   4. checkOutABook: accepts a String: title, returns an int: checkedOutTime
      1. ask the user for the title of the book that is being checked out, then asks if the user is a student or a faculty member; if the user is a student, then the checkout time is 21 days, if the user is a faculty member, then the checkout time is 120 days
   5. calculateInterest: accepts two doubles: principal, interestRate, returns a double: earnedAmount
      1. ask for the principal amount that is being invested, the interest rate at which it will be invested (remember what a percent is!), then calculate, and display the earned amount
         1. the formula: earnedAmount = principal \* (1 + r/365)365\*t   
            [t is the length of time = 10 years]
   6. convert: accepts a double and a String, returns a double
      1. convert feet to yards or yards to feet depending on the measurement
2. If the measurement is in feet, then the converted measurement will return yards.

yards = feet \* .3333

1. If the measurement is in yards, then the converted measurement will return feet.
   * 1. feet = yards \* 3
2. Complete the Areas program

**Areas**

You are going to create an interactive program that finds the areas of a circle, a square, a rectangle, and a triangle. The program should do the following:

* Tell what the program does – finds the area for the following shapes: circle, square, rectangle, and triangle
* Ask the user what type of shape he/she would like to find
* Perform the area calculation
* Show the result of the calculation
* Repeat until the user would like to quit

The area calculations are as follows:

Circle: PI \* radius \* radius

Square: side \* side

Rectangle: base \* height

Triangle: ½ \* base \* height (reminder – int vs double)

Create this program using a switch statement or if, else…if, or both to hone your skills!