Programming, and Data Structures

Workbook 1

This worksheet is to help you become familiar with the basics of

* Projects – creating and naming them
* Packages – creating and naming them
* Classes – creating, naming, calling, file naming
* Constructors – declaring, calling, naming
* Methods – declaring, calling, naming
* Variables – declaring, initializing, referencing

This worksheet WILL be graded. Be sure to use the Class template design provided in Average.java from Workbook0.

Before you begin.

1. Ensure that your workspace is in a folder which is backed up to the web/ network e.g. college network drive, google drive. You may like to have it in the following folder structure …/GriffithCollege/PDS/workspace
2. Load Eclipse selecting the appropriate workspace
3. Make a new java project called Workbook01
4. Make a new package in this project called workbook01
5. Make a 8 new java files with the name provided below.

**Tasks**

**Where the OOD approach is specified use a separate test class to create your objects.**

1. **Odd.java** Write a program that takes an integer input and prints an output messages stating whether or not the user enters an odd positive number.
2. **Guessing.java: Use OOD:** Write a number guessing program. Assign a value to a variable called number at the top of the program. Give a prompt that asks for five guesses. See whether any of the guesses matches the number and then print an appropriate message if one does.
3. **GuessingTest**
4. **Tax.java: Use OOD:**  Write a tax calculation program. Prompt the user to input two salaries for a family and output their combined tax bill. A family pays no tax if its income is less than 15000 euro. The family pays a 10% tax if the combined salaries are for 15000 euro through 19,999 euro, or a 20% tax if the combined salaries are from 20000 euro through 29,999. Otherwise the family pays a 30% tax.
5. **TaxTest**
6. **GreaterThan.java** Write a program with a main method that calls a method called greaterThan, that takes two integer arguments and returns 1, if the first is greater than the second, and 0 otherwise.
7. **Initals.java : Use OOD:**  Write a program that asks the user for two initials. Print a message telling the user whether the first initial falls alphabetically before the second.
8. **InitialsTest**