ITSS3312 – Object-Oriented Programming

Programming in Java

**Homework 1**

**IMPORTANT NOTES:**

* In Eclipse IDE, Students should create a new project named: **HOMEWORK\_1**

**Problem 1:**

Write a Java program that reads a student name, his/her age, and his/her height (in feet) from the console and prints out all pieces of data related to a student, i.e. name, age, and height, in one line of the output console.

Example of output: John Smith 30 5.9

***Important Notes:***

* *Assumed that the user always correctly enters the input.*
* *In Eclipse IDE,insidethe newly created project* ***HOMEWORK\_1****, students should create a new program, i.e. a class, named:* ***Program\_1*** *under a new package named* ***PROBLEM\_1****for his/her work on this problem.*
* *To submit, students copy all the code of the program into a* ***Notepad*** *file (and keep all the original Eclipse format) – NOT Microsoft Words, name the file as “****hw1\_Program1****” (the file should have the suffix* ***.txt****), and* ***submit it*** *via* ***E-Learning*** *(attach the file)*

**Problem 2:**

Write a Java program that can compute the interest on the next monthly mortgage payment. The program reads the balance and the annual percentage interest rate (e.g.: *for an interest rate of 4.25%, the user should enter “4.25”*) from the console. The program should check to be sure that the inputs of balance and the interest rate are not negative. After the computation, the program displays the interest amount as a floating-point number with 2 digits after the floating point.

***Formula:*** *the interest on the next monthly mortgage payment can be computed using the following formula:*

*Interest = balance x (annualInterestRate / 1200)*

***Important Notes:***

* *Assumed that the user makes mistakes at most once forthe balance and once for the annual percentage interest rate while entering the data, i.e. he/she enters the correct value the next time right after being warned.*
* *In Eclipse IDE, inside the newly created project* ***HOMEWORK\_1****, students should create a new program, i.e. a class, named:* ***Program\_2*** *under a new package named* ***PROBLEM\_2****for his/her work on this problem.*
* *To submit, students copy all the code of the program into a* ***Notepad*** *file (and keep all the original Eclipse format) – NOT Microsoft Words, name the file as “****hw1\_program2****” (the file should have the suffix* ***.txt****), and* ***submit it*** *via* ***E-Learning*** *(attach the file)*

**Problem 3:**

Write a program that can compare the unit (per lb) cost of sugar sold in packages with different weights and prices. The program prompts the user to enter the weight and price of package 1, then does the same for package 2, and displays the results to indicate sugar in which package has a better price. It is assumed that the weight of all packages is measured in lb. The program should check to be sure that both the inputs of weight and price are both positive values.

***Important Notes:***

* *Assumed that the user makes mistakes at most once for the weight and once for the price while entering the data, i.e. he/she enters the correct value the next time right after being warned.*
* *In Eclipse IDE, inside the newly created project* ***HOMEWORK\_1****, students should create a new program, i.e. a class, named:* ***Program\_3****under a new package named* ***PROBLEM\_3****for his/her work on this problem.*
* *To submit, students copy all the code of the program into a* ***Notepad*** *file (and keep all the original Eclipse format) – NOT Microsoft Words, name the file as “****hw1\_program3****” (the file should have the suffix* ***.txt****), and* ***submit it*** *via* ***E-Learning*** *(attach the file)*