LEARNING PROFILE FOR ASSIGNMENT#1, QUESTION#5

EmployeeSavings.java

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| --- | --- | --- | --- | --- | --- |
| *Name* | *:* | *Tyler Lucas* | *Due Date* | *:* | *N/A* |
| *Student ID* | *:* | *3305203* | *Submission Date* | *:* | *2017/05/09* |

# 1. Problem Statement

Suppose you save $100 each month into a savings account with an annual interest rate of 5%. Thus, the monthly interest rate is 0.05/12 = 0.00417.

After the first month, the value in the account becomes 100 \* (1 + 0.00417) = 100.417

After the second month, the value in the account becomes (100 + 100.417) \* (1 + 0.00417) = 201.252

And after the third month, the value in the account becomes (100 + 201.252) \* (1 + 0.00417) = 302.507

… and so on.

Write a program that randomly generates monthly savings amounts for the 15 runners in Problem 4. Each monthly saving should be in the range of $100 to $800. Extend the AddressBook class to store the monthly savings generated by the random number generator.

Then, display the final account value for each of the 15 runners.

# 2. Description of the Code

Outputs temperature in Fahrenheit given an input temperature in Celsius.

# **3.** Errors and Warnings

Table 1: List of Errors and Warnings Encountered in the Program

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Errors / Warnings** | **Details** | **How I solved them** |
| 1 | CelsiusToFahrenheit class wasn’t found in CelsiusToFahrenheit project. | [v. 1.0] I had set the main class as "private". | I changed the class and main method from “private” to “public”. |
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# 4. Sample Input and Output

[Version 1.2-1.3, input “0”]

Enter temperature in integer degrees Celsius: 0

0 degrees Celsius is equivalent to 32 degrees Fahrenheit.

[Version 1.2-1.3, input “60.5” (float type input)]

Enter temperature in integer degrees Celsius: 60.5

Exception in thread "main" java.util.InputMismatchException

at java.util.Scanner.throwFor(Scanner.java:864)

at java.util.Scanner.next(Scanner.java:1485)

at java.util.Scanner.nextInt(Scanner.java:2117)

at java.util.Scanner.nextInt(Scanner.java:2076)

at CelsiusToFahrenheit.main(CelsiusToFahrenheit.java:34)

C:\Users\tyblu\Documents\repos\comp268-random\CelsiusToFahrenheit\nbproject\build-impl.xml:1040: The following error occurred while executing this line:

C:\Users\tyblu\Documents\repos\comp268-random\CelsiusToFahrenheit\nbproject\build-impl.xml:805: Java returned: 1

# 5. Discussion

The first error, where a class couldn’t be found in the project, was caused by setting either or both the class and the main method to private. I first ran into this error when attempting the *HelloWorld* sample program[[1]](#footnote-1). Having read the class Style Guide in which it says “Create private fields with getters/setters rather than leaving fields public,” as well as Controlling Access to Members of a Class[[2]](#footnote-2) in which it says “Use private unless you have a good reason not to,” I mistakenly thought this applied to the main class and method as well, as I’m still not sure what the differences are between a class, method, and object. Searching online didn’t reveal a solution right away, as few experienced programmers would think that something this simple could go awry, but I eventually found the answer here: <https://goo.gl/P2OdMJ>. Of course, the next page in the textbook had the answer as well:

The word “public” in the first line of main() means that this routine can be called from outside the program. This is essential because the main() routine is called by the Java interpreter, which is something external to the program itself.[[3]](#footnote-3)

I’ll have to keep an eye out to

1. (Eck, 2014, p. 21) [↑](#footnote-ref-1)
2. (Oracle, 2015) [↑](#footnote-ref-2)
3. (Eck, 2014, p. 22) [↑](#footnote-ref-3)