COP 2800, Java Programming

Assignment 8-1 (25 points)

8.6 (Savings Account Class) Create class `SavingsAccount`. Use a `static` variable `annualInterestRate` to store the annual interest rate for all account holders. Each object of the class contains a `private` instance variable `savingsBalance` indicating the amount the saver currently has on deposit. Provide method `calculateMonthlyInterest` to calculate the monthly interest by multiplying the `savingsBalance` by `annualInterestRate` divided by 12 —this interest should be added to `savings-Balance`. Provide a `static` method `modifyInterestRate` that sets the `annualInterestRate` to a new value. Write a program to test class `SavingsAccount`. Instantiate two `savingsAccount` objects, `saver1` and `saver2`, with balances of $2000.00 and $3000.00, respectively. Set `annualInterestRate` to 4%, then calculate the monthly interest for each of 12 months and print the new balances for both savers. Next, set the `annualInterestRate` to 5%, calculate the next month's interest and print the new balances for both savers.

Grade rubric:

Detailed program comments	5
Program code file (.java)	10
Ran program screen shot	5
Assessment/Reflection	3
Challenges	2
Total	25

Please upload the files in the Assignment 8 folder. Make sure you include your "Ran Program Screenshot/s"

Purpose: The purpose of this assignment is to test your comprehension and implementation of Classes, objects, static vs non static methods, overloaded constructors.