ITSE 2321 – OBJECT-ORIENTED PROGRAMMING JAVA
Program 9 – Classes and Objects

Create a class called **SavingsAccount**. The class should have a static variable named, **annualInterestRate**, to store the annual interest rate for all account holders. Each object of the class should contain a private instance variable named, **savingsBalance**, indicating the amount the saver currently has on deposit.

Write methods to perform the following:

- calculateMonthlyInterest – calculates the monthly interest by multiplying the **savingsBalance** by **annualInterestRate** divided by 12. This interest should be added to the balance.

- depositAmount – allows the customer to deposit money into the account (thereby increasing the balance. Do not accept negative amount.

- withdrawAmount – allows the customer to withdraw money from the account (thereby decreasing the balance. Do not accept negative amount.

- modifyInterestRate (static) – allows the bank to change the annual interest rate. Accept only floating-point values between 2 and 5.

- toString – get string representation of **SavingsAccount** object (prints the variable, savingsBalance

Write a test class named **TestSvingsAccount** to test the **SavingsAccount** class. Instantiate two objects, saver1 and saver2, with balances of $2000.00 and $3000.00, respectively. Set the annual interest rate to 4%, then calculate the monthly interest for each of the 12 months and print the new balance, at the end of each month, for both savers.

Deposit $1500.00 to saver1's account and withdraw $550.00 from saver2's account. Next change the annual interest rate to 5%, calculate the next month's interest and print the new balance for both savers.

No input, processing or output should happen in the main method. **All work in the test class should be delegated to other methods in the class**. Include the recommended minimum documentation for each method. See the program one template for more details.

All methods not indicated as static should be non-static.

Run your program and copy and paste the output to a file. Create a folder named, **fullname_program9**. Copy your source code and the output file to the folder. Zip the folder and upload it to Blackboard.