Lab Assignment #2

Due Date: **Mid-night (11.59 pm) Sunday 20th June, end of Week05** **Marks/Weightage: 30/7.5%**
End Date: **Mid-night (11.59 pm) Sunday 27th June end of Week06 with 25% deduction/panelity. After this date, it will not be accepted. NO EXCEPTIONS.**

Purpose: The purpose of this Lab assignment is to:

- Practice the use of Classes and Objects in Swift

References: Read the course study material, code examples, lab exercises covered in the class. This material provides the necessary information that you need to complete the exercises.

Instructions: Be sure to read the following general instructions carefully:

This lab should be completed individually by all the students. You need to demonstrate your assignment and submitting the project **on Blackboard on or before the due date.**

You must name your Xcode project/playground file according to the following rule:
FirstName-LastName_CourseCode-SectionNumber_LabNumber

For Example: John-Smith_COMP2125-Sec001_Lab02 (if your section is 001)

Zip the above folder and submit/upload your assignment using the assignment link in Blackboard.

Note: You are required to be present (online) during the in-class demonstration. Late submission will not be considered. Your IDE will be Xcode (version 12.x) and Swift 5.0/6.0

Exercise 01: *[30 marks]*

Do the following using Xcode project:
Create a class **BankAccount** (store it in a separate file – BankAccount.swift) which is having the following:

a) Account number, customer name, yearly interest rate, account balance as **Stored properties** **[3 marks]**
b) Account balance should not be negative and there should be minimum 10.00 dollars all the time. **[3 marks]**
c) And **interest rate** should be positive and between 0.1 and 2.0 % **[3 marks]**
d) You need to define property observers – **didSet** for all the properties **[3 marks]**
e) Define a **description** as computed property which display all the values of bank account objects **[3 marks]**
f) Define two initializers, one which initializes all the properties to their default values and one which initializes to appropriate values **[3 marks]**
g) Define two functions- one is **credit**(amount:Double) which is used for depositing money and second which is **debit**(amount:Double) which is used for withdrawing money. **[3 marks]**

h) Add a deinitializer also **[2 marks]**

Create an extension class to **BankAccount** class (store it in separate file – **BankAccountExtension.swift**) and define the following in there:

i) **Interest** should be defined as computed property which is calculated by using interest rate formula (*Interest = account balance * yearly rate / 100;*) **[2 marks]**

j) One convenience initializer which initializes (provides values for) only account number, name and account balance **[2 marks]**

k) Test the above class in main.swift file by creating at least two objects of **BankAccount** class and test the capabilities of the class. **[3 marks]**

Evaluation:

Functionality	
Correct implementation of code logic as per business/functional requirements	70%
Correct use and testing of all the functionalities developed	20%
Comments, correct naming of variables, methods etc.	5%
User Friendly input/output	5%
Total	100%