**Lab Assignment #1**

**Due Date: Wednesday, May 29th 2019 (on or before 5.00 pm) Marks/Weightage: 20/5%**

**Purpose:** The purpose of this Lab assignment is to:

* Practice the use of Functions, Arrays, Sets, Dictionaries, Tuples etc. in Swift

**References:** Read the course’s text book, study material, code examples 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 will have to demonstrate your project in a scheduled lab session and submitting the project **through drop box link on Blackboard**

You must name your Xcode project/playground according to the following rule:

YourFullName\_course-code\_Lab-number

For Example: Bob-Rae\_COMP2125\_Lab01

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

***Note: You are required to be present during the in-class demonstration. Late submission will not be considered. Your IDE will be XCode( version 10.0 ) and Swift 4.0 or higher***

## Exercise 1: *[5 marks]*

Do the following using Xcode playground:

Write an overloaded function -**SwapContents** which should be able to swap the contents of any two variables. Demonstrate it by passing integers, doubles and string types of variables.

**Exercise 2:**

Define a function – **SumAvgArray**(values: [Int] ) -> ( Int, Double) which calculates the sum and average of an integer array and return – sum and average ( two values ) as tuple

## Exercise 3: *[5 marks]*

Do the following using Xcode playground:

You are given an array of dictionaries. Each dictionary in the array contains 2 keys “firstName” and “lastName”. Create an array of strings called fullNames that contains the values for “firstName” and “lastName” from the dictionary separated by a space.

## Exercise 4: *[5 marks]*

Do the following using Xcode playground:

You are given two sets – Set of Cities in Ontario and Quebec. Choose some cities of your choices and take some cities which are common in both the provinces such as Paris etc.

And do the following:

Show the output of Set Union and Intersection operations.

**Evaluation:**

|  |  |
| --- | --- |
| **Functionality** |  |
| Correct implementation of classes (property declarations, initializers, property observers, methods, etc.) as per business/functional requirements | 70% |
| Correct use and testing of classes (declaring and creating objects, calling their methods, interacting with user, displaying results) and functions developed | 20% |
| Comments, correct naming of variables, properties, methods, classes, etc. | 5% |
| **User Friendly input/output** | 5% |
| **Total** | 100% |