**INFO 6350 Spring 2019**

**Swift Practice**

Using Swift playground and / or the command line for macos (open xcode, create a new xcode project, macOS, command line tool), practice the following exercises:

Exercise: Swift Variables

1. Declare a constant with a value of 25 and any name of your choice.
2. Declare a variable explicitly with a value of 15.
3. Declare a variable implicitly with a value of 10.
4. Print the sum of the values declared in b) and c) to the console.
5. Declare 2 variables with values 12 and 5.5.
6. Create a variable that stores the product of the variables declared in e). (Use type casting where necessary)
7. Declare a variable of type String with Value “iOS”. Concatenate the string “Development” with the first string.
8. Declare an emoji (any emoji of your choice : command + control + space to access emojis) variable with the value “iPhone”.
9. Declare another emoji variable with the value “iPhone\u{301}”
10. Declare a variable that stores the value you get after applying the == operator on the emojis declared in h) and i).

Exercise: Swift Arrays

1. Declare an empty Array of type Int.
2. Declare an empty Array of type String and initialize it with 3 values.
3. Append the array [“String 4”,”String 5”] to the array declared in b).
4. Insert the string “Random” at the 2nd index without overwriting the already existing value(Rearrange the indices).
5. Declare an array and initialize it with the values [12 , “PewDiePie” , true , 176.224 , “J”].
6. Use removeAt to remove any value from the array declared at e).

Exercise: Swift Loops

1. Declare an empty Array of Integers.
2. Initialize the array with prime numbers between 1 and 100.
3. Using the for-in loop print out all the numbers along with the sum of their digits.
4. Using a repeat while loop add 5 to each number.
5. Declare a string and cast it to an Array of characters. Iterate over this array to print out the characters along with their indices.

Exercise: Swift Functions

1. Create a function named “add” that takes two parameters of type double and returns the sum of the two numbers
2. Create a function named “subtract” that takes two parameters of type int and returns the difference of the two numbers
3. Create a function name “multiply” that takes two parameters of type Float and returns the product of the two numbers
4. Make sure that the three functions created above work by testing them

Exercise: Conditions

1. A school has following rules for grading system: a. Below 25 - F b. 25 to 45 - E c. 45 to 50 - D d. 50 to 60 - C e. 60 to 80 - B f. Above 80 - A Write a code block or function that lets you enter a certain score and displays the corresponding grade in the console.
2. Write a function to enter the length and breadth of a rectangle. Based on your inputs print “Rectangle” is the values are different or “Square” is they are the same.

Exercise: Swift Dictionary and Tuples

1. Create a dictionary of type [Int:String] where the key will contain an integer value i.e userId for every User and the value will contain the names of the corresponding users.
2. Initialize the dictionary with 5 different key/value pairs of your choice.
3. Iterate over the contents of the dictionary to print out the key and the corresponding value for each entry.
4. Print only the keys to the console.
5. Create a datatype called MyTuple using the typealias feature of swift. It should be a tuple containing 2 Strings (String , String).
6. Declare and initialize a tuple with any values of your choice.
7. Print both values of the tuple individually in the console.

Exercise: Swift Optionals

1. let optvar : Int = nil Correct the error in this line of code.
2. let unwrapme : String? = nil

let unwrappedValue : String = unwrapme!

The code snippet shown above will crash. Rewrite it with Optional Binding.

3 - Declare any optional variable of any type with the Optional keyword.

4 - var value1 : Int?

var defaultValue : Int = 7

Print the value of value1 to the console. If it contains nil use assign defaultValue to it.

i) Write a simple if-else block to do so.

ii) Use the nil coalescing operatior.

4- If let name = txtname.text {

If let address = txtaddress.text {

sendToServer(name , address)

}

else{

print(“No address provided”)

}

}

else {

print(“No name provided”)

}

Rewrite this piece of code using 2 guard statements.