INFO 6350 Spring 2018

Assignment # III

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

*Exercise: Swift Functions*

* Create a function called ‘add’ which takes two parameters in the form of Int and returns the addition.

Print the value that returns from this function on the console

* Create a function called ‘multiply’ which takes two parameters in the form of Int and returns the multiplication

Print the value that returns from this function on the console

* Create a function called ‘compute’ and paste the ‘add’ and ‘multiply’ functions inside this function. ‘compute’ will take parameters Boolean and two Int and if the Boolean value is true ‘add’ will be called else ‘multiply’ will be called.

Print the value that returns from this function on the console

*Exercise: Swift Structures*

* Create a structure ‘Planet’ with two properties: name and distanceFromSun (Double)
* Create 2 instances of the structure providing the name and distanceFromSun.
* Modify the function ‘compute’ to accept a Boolean and two Doubles perform the same add and multiply operations.
* Pass the distance from the 2 instances of planet that you just created to the ‘compute’ function and print the output

Exercise: Swift Classes

* Create a class ‘Animal’ with an empty function ‘makeNoise’.
* Create a class ‘Dog’ as a subclass of ‘Animal’ override the function ‘makeNoise’ that prints ‘Dogs bark’.
* Create a class ‘Cat’ as a subclass of ‘Animal’ override the function ‘makeNoise’ that prints ‘Cats purr’.
* Create an instance of class ‘Cat’ and class ‘Dog’.
* Print the makeNoise function from each of these instances.
* Print if each of these instances is an instance of class ‘Animal’.

*Exercise: Swift Optionals*

Ask the user their name, take an input using commandline.

* If no input was provided print ‘Welcome Anonymous User’
* If the input is all numbers print ‘Welcome Code Name ’ followed by the number
* Otherwise print ‘Welcome ’ followed by the String entered

*Exercise: Swift Extension*

Create a function called ‘calculate’ as an extension of Int data type.

‘calculate’ should return the square of an integer and the sum of all numbers from 1 to that number (inclusive)

**Use number range**

Eg.

Input: 5

Output: square:25, sum:15

*Exercise: Swift Protocol*

Create a protocol for class ‘Dog’ and ‘Cat’ that have properties numberOfLegs and species, the ‘Dog’ and ‘Cat’ classes should conform to this protocol