Activity 01

1. (3 points) Explain the key differences between dictionary, set and array.

* Dictionaries are key, value pairs in which it has a unique key and values are stored in that particular key.
* Arrays can store duplicate values and if you want to store values in ordered list then arrays are used.
* Sets doesn’t store any duplicate values and if order doesn’t matter in a list then we can use Set.

1. (3 points) Explain the annotations @IBOutlet and @IBAction. When do we use @IBOutlet and @IBAction?

* @IBOutlet: It is a variable which is a reference to a UI component. It is used to connect code to storyboard layout.
* @IBAction: It is a function which is called when a specific user interaction occurs. It is a way of making storyboard layouts trigger code.

1. (3 points) Write a function which takes an array of type double and returns the average of an array.

func average(numbers: Double…) -> Double

{

return array

}

1. (16 points) Create a project in XCode with the project name as “**LastName\_DiceGame**” LastName is your last name.
2. You need to create a dice game application by taking names of the two players as an input.
3. When you click on the “Roll a dice” button, your app needs to generate a random number and assign it to each player. The range of random number is from 1 to 6 inclusive.
4. Compare the random numbers of two players and print the output as below.
   1. Both the players have same random numbers, then print “The game is tie”
   2. Otherwise, print the winner with highest random value.

Following screenshots are of a sample app design with all the three cases:

