CS 646 iPad/iPhone Application Development
Fall Semester, 2018
Assignment 1

San Diego State University -- This page last updated 8/28/18

Assignment 1 (100 points)
Due Sept 8 11:59 pm
Objectives

1. Get started using Xcode.
2. Learn basic Swift

Programing Problems

1. (10 pts) Create a function squaredSums with one argument an Array of Int. Using the forEach return the sum of the squares of the elements of the array. So an input of [1,2,3] would return 1 + 2*2 + 3*3 = 14.

2. (10 pts) Create a function squaredSums2 with one argument an Array of Int. Using the forEach return the sum of the squares of the even elements of the array. So an input of [1,2,3] would return 2*2 = 4.

3. (10 pts) Create a function squaredSums3 with one argument an Array of optional Ints. Using the forEach return the sum of the squares of the even elements of the array. So an input of [1,2,3,nil] would return 2*2 = 4.

4. (10 pts) Create a function squaredSums4 with one argument an optional Array of Ints. Using the forEach return an optional Int, the sum of the squares of the even elements of the array. So an input of [1,2,3] would return 2*2 = 4.

5. (10 pts) Create a function squaredSums5 with one argument an Array of Int. Using the filter and reduce return the sum of the squares of the even elements of the array. So an input of [1,2,3] would return 2*2 = 4.

6. (10 pts) Create a function squaredSums6 with one argument a Collection of Int. Using the filter and reduce return the sum of the squares of the even elements of the array. So an input of [1,2,3] would return 2*2 = 4.

7. (20 pts) Create a Student Struct that contains a name, red id, number of units taken and GPA. The struct needs one method **priority** which returns the number of units taken times the GPA.

8. (20 pts) Create priority queue class. The **add** method added elements to the queue. The **first** method returns the element with the highest priority. The **removeFirst** removes the element with the highest priority and returns it. The queue needs to be able to hold Student structs from problem 7.

What to Turn in

Create a Xcode Playground for your assignment 1. Answer all questions in the single playground. Use a comment to separate each questions. Zip up the playground and turn in your zipped file using assignment 1 link on blackboard.

Late Penalty

An assignment turned in 1-7 days late, will lose 3% of the total value of the assignment per day late. The eight day late the penalty will be 40% of the assignment, the ninth day late the penalty will be 60%, after the ninth day late the penalty will be 90%. Once a solution to an assignment has been posted or discussed in class, the assignment will no longer be accepted. Late penalties are always rounded up to the next integer value.