CIS 55
Exercise 7, Due no later than 10-Dec-2021, 11:59pm Pacific Time

Below is your exercise for Advanced Sorts. For submitting your answers, you can either send me an updated Word document with your answers, email your answers directly, or even take a screen shot of your work on paper if you like. In all cases, email me your answers when you feel ready.

To start, create your own set of 10 numbers in an array that are not sorted. Using your array, do the following exercises:

(5 points) Show how the Mergesort algorithm sorts your array by:

1) Showing which sub parts of the array are being examined with each recursive call to Mergesort
2) Showing the results of the array each time the Merge function is used

Your demonstration should be similar to slides 19-33 in the Mergesort presentation. You do not have to show the details of the function calls in the stack (unless it helps you), but do explain what is happening at each step to show understanding of the algorithm and receive partial credit if you're incorrect.

(5 points) Using your same original array, show how the Quicksort algorithm sorts this array by:

3) Showing the results of the array each time the Partition function is used
4) Showing which sub parts of the array are being examined with each recursive call to Quicksort

Your demonstration should be similar to slides 35-64 in the Quicksort presentation. Again, you do not have to show all the details of the function calls in the stack in the slides (unless it helps you), but do explain what is happening at each step that you show.