Homework #1: Sorting Algorithms (100 pts)

For this assignment, you will begin implementing a web application for all CS 325 homework using Python Flask. For homework #1, you must implement six sorting algorithms covered in class:

1. Insertion Sort
2. Bubble Sort
3. Selection Sort
4. Merge Sort
5. Radix Sort
6. Quick Sort

The web application must:
- use the /hw1 route for handling GET and POST requests
- have a textarea element to enter and display integers
- have a Generate button and number input field that generates N random integers between 0 and 10000
- have an InsertionSort button that will sort numbers in textarea using insertion sort
- have a BubbleSort button that will sort numbers in textarea using bubble sort
- have a SelectionSort button that will sort numbers in textarea using selection sort
- have a MergeSort button that will sort the numbers in the textarea using merge sort
- have a RadixSort button that will sort the numbers in the textarea using radix sort
- have a QuickSort button that will sort the numbers in the textarea using quick sort
- use Python Flask web microframework
- does NOT use Python's built-in sort methods.

Here’s what the /hw1 web page may look like:

When you’re finished, submit a compressed tarball containing the entire web application source code.