Assignment # 2

Programmatically generate three type of arrays of size 1000: an array that is sorted in ascending order, a reversed array (an array that is sorted in descending order), and a random array.

- Programmatically sort the three arrays using insertion sort, merge sort, quick sort, heap sort, counting sort and radix sort. For each sorting algorithm, calculate the number of the number of comparisons (see below).
- Discuss whether your results match the big O of these algorithms.

- **Note:** You can implement the code yourself, or you can get it from an external resource. If you get it from an external resource, cite that resource please.
- **Submission:** Please submit the source code as well the table that summarize the results: This is what the table should look like:

Comparing the number of comparisons

	Random Array	Sorted Array	Reversed Array
Insertion Sort			
Merge Sort			
Heap Sort			
Quick Sort			
Counting Sort			
Radix Sort			

Note: For non-comparison algorithms, count the number of iterations in the loops