Program Assignment 3

Introduction to Data Structures and OO

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Due: 6/5

**Get the definition of LSD Radix Sort concept & code from WiKi or TA.

Part 1:

Write C++ functions which include **Insertion Sort, Quick Sort** and **LSD Radix Sort** three different methods to sort the following array(vector) in ascending order:

Input : `nums`

168	179	208	306	93	859	984	55	9	271	33

output :

9	33	55	93	168	179	208	271	306	859	984

You have to print out the details during the execution of each above sort method. The outputs are asked to follow the formats below respectively.

Part 2:

Continuing with Part1, you have to randomly generate the testing data with the constraints below, and sort them by three different methods (**Insertion Sort, Quick Sort** and **LSD Radix Sort**).

Constraints:

```
0 < nums.length <= 200000
0 < nums[i] < 1000
```

Do **NOT** print out the sorting details when the `nums.length` is more than 100.