CSIT 503 HW2
Topic: Quick & Counting Sort

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1 Problem Description

Instructions. You are provided the skeleton code named *Sort2.java*. The source file is available on Canvas in a folder named *HW2*. Please modify the skeleton code to solve the following tasks.

- Task 1 (40 pts). Implement the *Quick Sort* algorithm as discussed in Lecture 2. (Hint: use the function *checked_sorted* to check if your output is indeed sorted.)
- Task 2 (40 pts). Implement the *Counting Sort* algorithm as discussed in Lecture 2. (Hint: use the function *checked_sorted* to check if your output is indeed sorted.)
- Task 3 (20 pts). Generate a report to discuss the time performance of the two algorithms. Compare it with their theoretical time complexity as discussed in the lecture. Plots and figures are encouraged to help draw the conclusion.

2 Submission Guideline

1. Work individually.
2. Please directly insert your code in the appropriate place in the file Sort2.java, where there is a *fill in your program* statement.
3. Submit your solution on Canvas on time. A late penalty of 10 points for each late day applies. Any late for more than three days receives zero automatically.