1. (10 points) *Experiments of Sorting Algorithms*

Here is a checklist for helping you complete the first assignment:

- In this experiment, you will compare merge sort, quick sort, and one more sort algorithm you would like to include.
- Get the sample code of insertion sort at `insert.cpp.txt`. Use similar ideas for the experiment.
- You need to try different input sizes on these algorithms, and record their running time. You will also design a reasonable way to count steps to reflect real running time steps.
- You can add any other experiments such as the performance of using already sorted arrays. You will get bonus points if you add more interesting experiments.
- Write a short report (like a 2 or 3-page paper), of your experiment results. Please make sure to add your source code as an appendix.
- In this report, you should illustrate your results as figures or tables. Please also discuss your findings or insights in the last section.

- Due Date: 3/28/2023