**Reflection for Program 1**

**By:** [Your Name Here]

[Answer everything and remove the red instructional text from your final submission]

**When an efficient design does not always mean the *most* efficient solution.**

[You implemented 2 different algorithms: a divide-and-conquer approach based on MergeSort and an iterative approach that used only 1 loop. The iterative approach is surprisingly better (although its very easy to make a version that isn’t). Prove to your boss that your iterative approach is better. Run both algorithms on inputs of size n = 10 thousand, n = 100 thousand, n = 500 thousand, n = 1 million, n = 10 million, n = 50 million and n = 100 million.

* Graph the runtime of the divide and conquer approach to that of the iterative algorithm and put the graph here.
* Additionally, explain at least 2 observations from your graph.

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**List 3 challenges you encountered implementing the divide and conquer algorithm and explain how you addressed each one.**

* **Challenge 1:** [Your answer here]
  + **Resolution 1:** [Your answer here]
* **Challenge 2:** [Your answer here]
  + **Resolution 2:** [Your answer here]
* **Challenge 3:** [Your answer here]
  + **Resolution 3:** [Your answer here]