**CS 499 Milestone Three Narrative**

1. **Briefly describe the artifact. What is it? When was it created?**

The artifact from my CS300 class is called Vector Sorting. It was created in May 2023. The artifact extracted information containing bids for auction of property.

1. **Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in algorithms and data structure? How was the artifact improved?**

I selected this artifact for my ePortfolio because it demonstrates my understanding of how to apply algorithms and data structures. The improvement involved fixing the partition function in quick sort. The improvement correctly sorts data by properly selecting the pivot and swapping elements efficiently.

1. **Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**

The outcomes I have achieved after completing module four are the following:

• Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices (data structures and algorithms)

• Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals (software engineering/design/database)

I believe I was able to enhance the algorithms to improve efficiency.

1. **Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**

My goal was to enhance the code with minimal changes. I didn’t want to completely change all the functions, but it showed me how to work efficiently and not overwork by changing the whole codebase. One thing I learned is that a mistake in the sorting logic can cause issues. An error in the partition could break the quick sort logic.