Provide an update to your instructor on your progress with each category of artifacts for the ePortfolio:

Software design and engineering

Algorithms and data structures

Databases

To document your progress in the categories of \*Software Design and Engineering, \*\*Algorithms and Data Structures, and \*\*Databases\*, you can use a Status Checkpoints table. Here’s a structured example of how you might fill out such a table, including status updates, details, and trouble spots:

### Status Checkpoints Table

| Category | Status & Details | Trouble Spots/Help Needed |

|----------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|

| \*Software Design and Engineering\* | \*Status: Completed initial design patterns and principles. Currently working on advanced architectural patterns (e.g., microservices). <br> \*\*Details: Gained proficiency in object-oriented design and design patterns such as Singleton, Factory, and Observer. Implemented these patterns in multiple projects. Started exploring architectural patterns, including microservices and RESTful services. | \*\*Trouble Spots: Struggling with the implementation of microservices architecture and service orchestration. <br> \*\*Help Needed\*: Seeking additional resources or guidance on best practices for microservices and integration strategies. |

| \*Algorithms and Data Structures\* | \*Status: Mastered basic algorithms and data structures. Currently focusing on advanced algorithms (e.g., dynamic programming, graph algorithms). <br> \*\*Details: Successfully implemented and optimized common algorithms (sorting, searching) and data structures (arrays, linked lists, trees). Currently working on dynamic programming and graph-related problems, including shortest path algorithms. | \*\*Trouble Spots: Difficulty understanding and implementing complex dynamic programming problems. <br> \*\*Help Needed\*: Need additional practice problems and possibly a tutor or mentor to help with dynamic programming concepts and their applications. |

| \*Databases\* | \*Status: Completed basic relational database concepts and SQL. Currently enhancing skills in NoSQL databases and database optimization techniques. <br> \*\*Details: Proficient in relational database design, normalization, and writing SQL queries. Started exploring NoSQL databases (e.g., MongoDB, Cassandra) and their use cases. Working on database optimization techniques such as indexing and query optimization. | \*\*Trouble Spots: Struggling with advanced NoSQL database features and performance tuning. <br> \*\*Help Needed\*: Looking for more in-depth tutorials or case studies on NoSQL databases and optimization strategies. |

### Additional Notes:

- \*Software Design and Engineering\*: Consider reviewing case studies and industry practices for advanced architectural patterns. Engage in group discussions or forums to gain insights from others who have implemented similar architectures.

- \*Algorithms and Data Structures\*: Use online platforms like LeetCode or HackerRank to practice dynamic programming and graph algorithms. Review textbooks or online courses focused on these advanced topics.

- \*Databases\*: Participate in hands-on projects or internships that involve NoSQL databases to gain practical experience. Look for webinars or workshops on database performance tuning.

This table format provides a clear overview of your current status, highlights specific achievements, and identifies areas where you need additional support or resources. Adjust the details based on your personal progress and specific needs.