Corley Adams cs499 Professor Sanford The artifact I’m enhancing for databases is MongoDB from my cs340 class. The code focuses on the database structure and schema are not detailed in the queries, so this section focuses on the queries’ interaction with the database. The reason for choosing this artifact was it being a good fit for multiple categories for this assignment and a perfect fit for databases. The enhancements I made for this artifact were documenting the usage, purpose and expected results of each query through the addition of comments at the start of each line of code.  
 Ensured that fields and collections saw proper and consistent naming to minimize confusion or yields mistakes. Surrounded all operations with the database with the catch blocks to supply if need be the proper error messages. Schemed the components of the research collection for validations to ensure better organization and quality. Implemented the most frequent search use cases like founded\_year, state\_code in the offices table, the number of employees. Occasionally utilized the $project stage in the aggregation pipeline to drop fields that aren’t necessary in order to improve the performance of the application. Divided complex queries into smaller functional queries for enhanced reusability and easier maintenance. Brought changes to the code to include validation functions to ensure data validity as well as prevent injection attacks. The procedures for structured input validation to provide the correct user’s inputs were established so that there would be no problems during data processing. As i was creating and modifying the artifact I gained a deeper understanding of normalization principles, which help design efficient and well-structured databases that minimize data redundancy and improve data integrity. I also delve into different indexing strategies and how to choose the right indexes for your queries to optimize database performance.