Software Design and Engineering

Lab Document

High Level Purpose Statement:	The purpose of this lab is to learn how to use MongoDB. For this lab, I am going to create a very basic program that utilizes MongoDB. I will try to focus on creating and navigating MongoDB rather than creating a complicated program.
Experimental Design:	I am envisioning this project to be separated by the following tasks: • Establish database connection • Create program • Connect program to database (integration)
Resources Available:	**MongoDB in Java:** https://www.mongodb.com/docs/drivers/java/sync/v4.3/fundamentals/data-formats/documents/
Time Estimate:	I am estimating this project to take between 8-10 hours.
Experiment Notes:	**Establish database connection:** This was not incredibly difficult due to my former experience with integrating a Postgres database. **Create program** This task was relatively straightforward. I created a very basic game that counts the number of times that a player presses a spacebar within a 10-second period. However, integrating the database into the program initially brought some challenge. **Connect program to database (integration)** Initially, this step was tricky. I was unsure of how to integrate MongoDB into a Java program. However, once I began researching and experimenting, I discovered that this was a relatively simple process! I was ecstatic when I learned that MongoDB automatically creates a database and collection if they are not already configured. The only pre-requisite is that the user has MongoDB running on the same port.
Results:	I have a basic game that stores scores into a leaderboard and displays the top five scores after each round!
Consequences for the Future:	I take back what I said about hating MongoDB. Although it was difficult to adjust to the whole "schema flexibility" concept, using MongoDB isn't too difficult. I prefer order and consistency when working with data, so I probably would not use it in my data projects. However, it seems very useful for data that is not sensitive or complex. I would definitely consider using MongoDB for game design projects!