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For this narrative exercise, I would be using my Python code which I modified from its initial state to a final form. This artifact is used to perform CRUD (Create Read Update Delete) operations on a mongo database. It basically automates DB functions like receiving data from a file and inserting into the database (Create), read data in sets or a single data from a database (Read), update certain records in the database based on certain criteria and datasets (Update) or delete a dataset from the database (Delete). This artifact was created in my mongoDB class where we were given various datasets and asked to insert them into the mongoDB database.

This artifact was included in my e-portfolio as it embodies the whole software design maturity and enhancement. In the initial version of my code, I did not follow the proper methodology as I was focused on the Create function of the code but with further discussions and inward look at the need of the code, I modified the entire code to the version 2 where the code now includes the CRUD functionality. The version 1 of the code was also did not have the ability to supply multiple records to each of the functions as it was hard coded inside the code. The version 2 addresses this setback by allowing the code to be re-used and also allow user input during run time by means of a data file. These changes greatly enhanced the code overall design by allowing me break down the code into various definitions within a class.

The course objectives were met by making these changes as the main goal of the code was to make it re-usable, accept input from an external source and also allow for use within another piece of code that could rely on the functions already defined within this code.

During the course work, I was exposed to proper python syntax and some inbuilt modules from the python library. I also had the opportunity to see what clean coding could be like, which follows standards set in stone for proper code software development in python. I also learned how to modularize code for re-usability and inclusion into another code base. All these improvements were not without issues. One of the issues I encountered was with the DB authentication. The initial code worked for this purpose but I had to hardcode the username and password inside the file which posed a security risk. I moved to using variables which could be stored securely and then accessed when the code is run. Another challenge I faced was how to ensure the input data was flexible enough to use various data insert methods of which I chose an input file. This was very difficult due to not really understanding how to stream datasets using python. This was also resolved.