CS 340 Project One README

An **explanation of the purpose of the CRUD Python module**

The purpose of the CRUD Python module is to implement an efficient and structured way to manage the animal records inside a MongoDB database. This allows the user to manage and retrieve documents within the Austin Animal Shelter data set using Create, Read, Update, and Delete functionality. By utilizing these commands from the Python module, it helps to make the interface easier to interact with.

An **explanation of how the module should be used**, including:

The CRUD Python module should be used to interact with the MongoDB database for a user to efficiently manage the Austin Animal Shelter system records. Users can instantiate the class and utilize the methods within to perform database operations seamlessly. This allows users to easily interact with the database without having to manage the complex environment of the MongoDB database.

A description of the Python driver for Mongo that was used and why it was chosen:

The Python driver for MongoDB in this project is PyMongo, which is the official driver for Python that works with MongoDB. PyMongo is relatively easy to use and provides a straightforward method of using an API to connect to MongoDB and use CRUD operations. PyMongo also supports a wide range of functionalities like indexing and aggregation. The reason why it was chosen was because for MongoDB and Python it is a reliable driver that helps developers to have access to its latest features and updates.

An explanation of the attributes and working functionality of the CRUD operations:

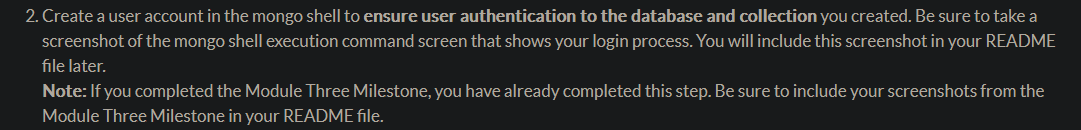
The CRUD Python module contains four primary methods: the create, read, update, and delete methods. Which form the basis for the CRUD operations commonly utilized by applications and databases. The create method helps to add new animal records to the database, if not previously created. The read method accepts a query and returns a list of documents that match that query. This helps in retrieving specific records within a database. The update method requires a previously created record and updates that record to a specified new value. It also returns the number of documents that it modified, allowing users to update existing records with new values or information. Lastly, the delete method takes a query of the specific record or records to be removed and permanently deletes them from the database. It is primarily used to remove records that are no longer required or are also outdated. Together these methods form the basis for CRUD functionality and operations and are a primary tool set for users to manage their database effectively.

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