C1 - MongoDB Connectivity

Problem Statement: Write a program to implement MongoDB database connectivity with PHP /python /Java Implement Database navigation CRUD operations (add, delete, edit etc.)

Pre-requisites (with installation command for Ubuntu):

1. Python3 - `sudo apt install python3`
2. pip - `sudo apt install python3-pip`
3. pymongo - `pip3 install pymongo` OR `pip3 install pymongo --break-system-packages` (installs it system-wide)

Instructions

1. First, open the Terminal and log in to MongoDB:

```
mongo
```

2. Now, in Mongo we need to initialize the database and tables:

```
// Create database
use connectMe;
// Create collection
db.createCollection("students");
// exit
exit
```

> We need to `exit` from Mongo shell since the work there is done for now.

3. Create a new file `connectMongo.py` with the following contents:

```python
from pymongo import MongoClient

client = MongoClient("mongodb://127.0.0.1:27017")
database = client.connectMe
collection = database.students

collection.insert_one({"roll":"21", "name":"Stewie"}) # insert operation
print("Inserted")
collection.insert_one({"roll":"22", "name":"Foxy"}) # insert operation
print("Inserted")
collection.update_one({"roll": "21"}, {"$set": {"roll": "20"}}) # update operation
print("Updated")
collection.delete_one({"roll": "22"})
print("Deleted")
```

```
client.close()
```

4. Open Terminal and run the above program:

```
python3 connectMongo.py
```

> [!NOTE] This step assume you have stored the file in home directory
> or you know how to change the current working directory.

5. That's it! You can view the changes in Mongo by logging in using `mongo`
   and viewing the table:

```
USE connectMe;
db.students.find();
```

> [!Tip] This guide assumes your `mongo` shell does not have any password for root user.

> [!WARNING] Never use `root` as password in production. Use a strong password. This guide uses `root` as password for simplicity and educational purposes.