Chapter 7 rewriting 7-6

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summery

In this report I will be rewriting the query code for mongo db into python and expanding on the core concepts contained within the chapter.

Data pillaging

Data pillaging Is the act of stealing data from a company. This information can be an incredible loss to a company and possibility ransomed back to a company. According to Blackblaze.com an average ransom payment is around $570,000 https://www.backblaze.com/blog/the-true-cost-of-ransomware/#:~:text=Yet%20another%20source%2C%20Palo%20Alto,by%20the%20end%20of%202021.

MongoDB

MongoDB is a multi-platform, real-time, document file , and database system. MongoDB, a NoSQL database, uses documents such as JSON with optional selection schemas. MongoDB is developed by MongoDB Inc. and is licensed under a public domain license.Mongo databases are json document based.

NoSQL

A NoSQL database provides a mechanism for storage and retrieval of data that is modeled in means other than the tabular relations used in relational databases. Some say the term “NoSQL” stands for “non SQL” while others say it stands for “not only SQL.” there are primarily for types of NoSql databases.

- **Document databases** stores the information as a document instead of as a massive array. Most use the json format but there are others.
- **Key-value stores** group associated data in collections with records that are identified with unique keys for easy retrieval. Key-value stores have just enough structure to mirror the value of relational databases while still preserving the benefits of NoSQL.
- **Wide-column databases** use the tabular format of relational databases yet allow a wide variance in how data is named and formatted in each row, even in the same table. Like key-value stores, wide-column databases have some basic structure while also preserving a lot of flexibility
- **Graph databases** use graph structures to define the relationships between stored data points. Graph databases are useful for identifying patterns in unstructured and semi-structured information.

Coding planning.

Tree style, I think,. It’s been a few years.

- Establishing a connection to the database
- Access the information contained within the collection called transaction
- Print out each item in the collection

Unexpected problems

- Install pymongo and numpy on windows
- Create a mongo database on windows

Rewritten version of the go mongo query 7-6

```
import pymongo # imports functions to maniplate  mongo databases
import numpy # adds functions to convert
try:
    myclient = pymongo.MongoClient("mongodb://localhost:27017/") # creates mongo client object object and creates a connnection to it
    print("connection established")
except:
    print("coulden't establish connection") # prints if connection couldn't be connected
mydb = myclient["store"] # creates array for managing data
mycol = mydb['transactions'] # creates array to hold
collist = mydb.list_collection_names()
print(mycol) # debugging code
if "transactions" in  collist:
    try:
        #results = numpy.asarray(collist["transactions"])
        for I in mycol.find():
            print(I)
    except Exception as e:
        print(e)
else:
    print("the collection does not exist")
```

Results from the previous code

```
======= RESTART: C:\Users\bryceOstrem\Desktop\finalProjectBryceOstrem.py =======
connection established
Collection(Database(MongoClient(host=['localhost:27017'], document_class=dict, tz_aware=False
, connect=True), 'store'), 'transactions')
{'_id': {'ccnum': '4444333322221111', 'date': '2019-01-05', 'amount': 100.12, 'cvv': '1234',
'exp': '09/2020'}}
{'_id': {'ccnum': '4444123456789012', 'date': '2019-01-07', 'amount': 2400.18, 'cvv': '5544',
'exp': '02/2021'}}
{'_id': {'ccnum': '4465122334455667', 'date': '2019-01-29', 'amount': 1450.87, 'cvv': '9876',
'exp': '06/2020'}}
>>>
```

References

- https://www.backblaze.com/blog/the-true-cost-of-ransomware/#:~:text=Yet%20another%20source%2C%20Palo%20Alto,by%20the%20end%20of%202021.
- https://www.w3schools.com/python/python_mongodb_getstarted.asp