**COMP306 – DATABASE MANAGEMENT SYSTEMS**

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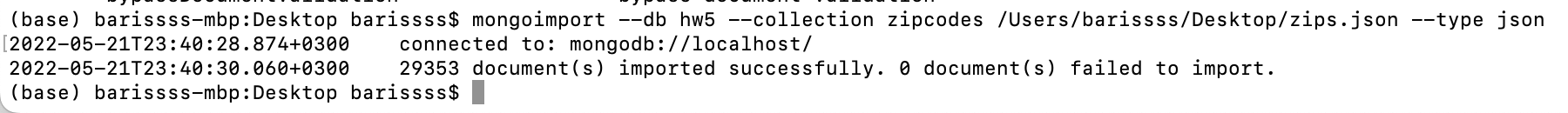
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Term: Spring 2022

Homework Number: HW #5

**MY ANSWERS:**

metin içeren bir resim

Açıklama otomatik olarak oluşturuldu1-)

Using the database called hw5 (by using use hw5 command)

The command I used for importing the data inside the zips.json file as the collection called zipcodes to the database called as hw5

metin içeren bir resim

Açıklama otomatik olarak oluşturuldumetin içeren bir resim

Açıklama otomatik olarak oluşturuldu

Showing the first 15 documents in the zipcodes collection

Showing the collections under the hw5 database (by using ‘show collections’ command under the hw5 database)

For switching to the database called hw5: I used ‘use hw5’ command.

For importing json file called “zips.json” to the database called hw5: I used ‘mongoimport - -db hw5 - - collection zipcodes /Users/barissss/Desktop/zips.json - - json

For showing the first 15 documents inside the zipcodes collection: I used ‘db.zipcodes.find({}).limit(15)’ command.

2-)

tablo içeren bir resim

Açıklama otomatik olarak oluşturuldu

Command I used for finding the specified documents in Q2 and the output of this command

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Açıklama otomatik olarak oluşturuldu

Output SS2 (continuation), for question2

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Açıklama otomatik olarak oluşturuldu

Output SS3, for question-2

metin içeren bir resim

Açıklama otomatik olarak oluşturuldu

metin içeren bir resim

Açıklama otomatik olarak oluşturuldumetin içeren bir resim

Açıklama otomatik olarak oluşturuldu

For Q2, the output is very large. I have included first 5 part from the output (see above). For Q2, I have used the following command:

db.zipcodes.aggregate( [ { $match: { pop: { $gte: 30000 }, state:"CA" }} ] )

Output SS5, for question2

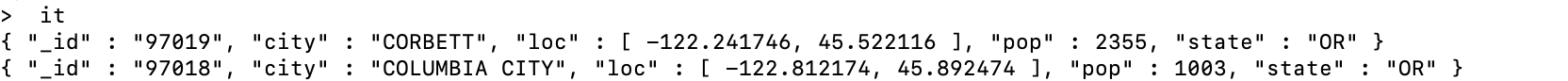
3rd question:

Output SS4, for question2

The first output of Q3 where only the 1st case in the Q3 is satisfied

For Q3, I have used the following command:

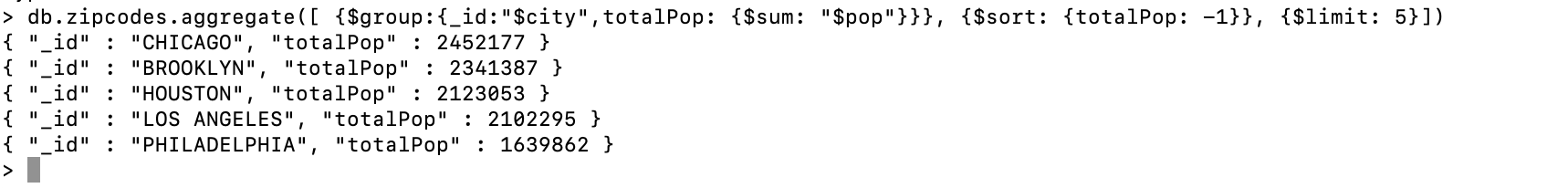
db.zipcodes.find({$or: [ { "loc.0": { $lt: -120 } , "loc.1": {$gt: 40} } , {"state": {$not:{$eq: "CA"}}}] })



The second output of Q3 where both of the conditions are satisfied

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Açıklama otomatik olarak oluşturuldu

metin içeren bir resim

Açıklama otomatik olarak oluşturuldu

The command I used for the 4th question, and the output of this command

The third output of Q3 where only the 2nd case in the Q3 is satisfied

4th question:

For Q4, I have used the following command:

db.zipcodes.aggregate([ {$group:{\_id:"$city",totalPop: {$sum: "$pop"}}}, {$sort: {totalPop: -1}}, {$limit: 5}])

5th question:

The command I used in the Q5, and the output of this command

For Q5, I have used the following command:

db.zipcodes.aggregate([{"$group" : {"\_id": "$state", "count": {"$sum" : 1}}},{"$match": {"count":{ $gte: 800} }},{"$sort": {"count": -1}}])

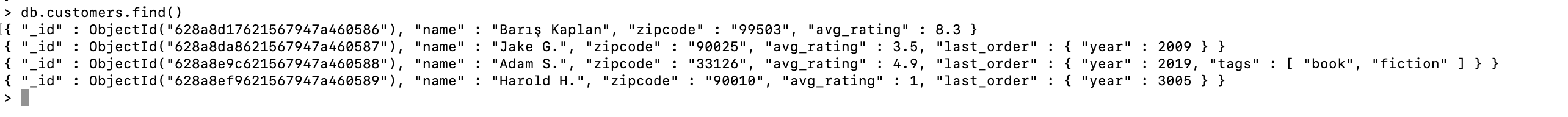
6th question:

metin içeren bir resim

Açıklama otomatik olarak oluşturuldu

metin içeren bir resim

Açıklama otomatik olarak oluşturuldumetin içeren bir resim

Açıklama otomatik olarak oluşturuldu

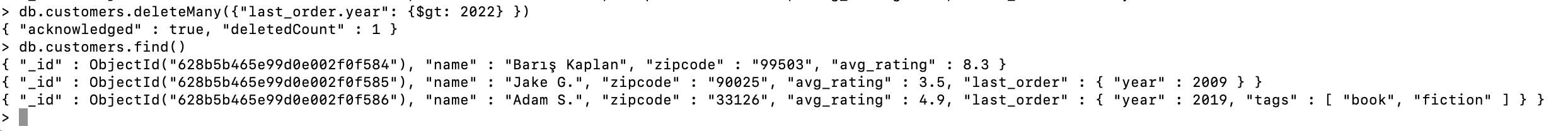
Creating a collection called "customers" by using db.createCollection() command and the output of this command

Showing the collections after creating the collection called "customers”

7th question:

Inserting all of the records specified in Q7 in 1 query to the collection called "customers"

By using the command called "db.customers.find()",showing all the documents in the collection called "customers"



8th question:

tablo içeren bir resim

Açıklama otomatik olarak oluşturuldu

Executing the command db.customers.deleteMany() for deleting all documents which include an order after the year 2022 , and after that, viewing all of the documents inside the collection called “customers” by using the command called “db.customers.find()”. You can see from the above screenshot that the order at the year 3005, which is after the year 2022, is deleted successfully from the customers collection.

The command I used for deleting all the documents which include an order after the year 2022 is below:

**db.customers.deleteMany({"last\_order.year”: {$gt: 2022} }) (Command-1)**

The command I used for showing all the documents under the customers collection is below:

**db.customers.find() (Command-2)**

9th question:

The query I am executing for updating my rating to 15, and the output I received from the MongoDB after I execute the query (in the 9th question)

When we have designed the schema for the collection called “customers”, we have specified the maximum value of the field called

“avg\_rating” as 10.0. In this question, we are asked to update the avg\_rating field of us to 15.0. Since 15.0 is greater than the maximum value of the avg\_rating field (which is 10.0), the response I obtained from the MongoDB states that the schema rules are not satisfied , and it also states that an error is thrown with the reason “comparison failed”.

metin içeren bir resim

Açıklama otomatik olarak oluşturuldumetin içeren bir resim

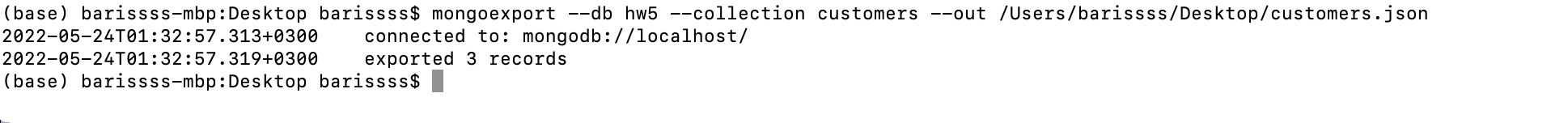
Açıklama otomatik olarak oluşturuldu

MongoDB Response SS2

MongoDB Response SS3

10th question:

metin içeren bir resim

Açıklama otomatik olarak oluşturuldu

The command I have used in the question 10 is as below:

**db.customers.aggregate([{**

**$lookup: {**

**from: "zipcodes",**

**localField: "zipcode",**

**foreignField: "\_id",**

**as: "city\_and\_state"**

**}**

**}, {$project: {city\_and\_state:1,name:1}},**

**{$project: {\_id:0,"city\_and\_state.loc":0, "city\_and\_state.pop":0,"city\_and\_state.\_id":0}}**

**])**

The command I used in the question 10, and the output of this command

11th question:

The usage of the mongoexport command and the output of this command.

The command I used for exporting “customers” collections into the “customers.json” file:

**mongoexport –db hw5 –collection customers -out /Users/barissss/Desktop/customers.json**

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Lecture Name: COMP306, Database Management Systems

Homework Topic: NoSQL (MongoDB)

Homework Number : Homework #5