MongoDB -Aggregation Exercises

- By Rahul veeravalli

Import the zips.json file into your MongoDB. Database name is

"population" and

collection name is "zipcodes".

>> mongoimport --db population --collection zipcodes --file zips.json

Q.] Atlanta Population

1. use db.zipcodes.find() to filter results to only the results where city is ATLANTA

and state is GA.

Ans : >>

db.zipcodes.find({$and:[{city:"ATLANTA"},{state:"GA"}]}).pretty()

2. use db.zipcodes.aggregate with $match to do the same as above.

Ans : >>

db.zipcodes.aggregate([{$match:{$and:[{city:"ATLANTA"},{state:"GA"}]}}]).pretty()

3. use $group to count the number of zip codes in Atlanta.

Ans : >>

db.zipcodes.aggregate([{$group:{ \_id:"$loc"}},{$count:"total\_zipcodes"}])

4. use $group to find the total population in Atlanta.

Ans : >>

db.zipcodes.aggregate([{$group:{\_id:{city:"ATLANTA"},totalpop:{$sum:"$pop"}}}])

1. Populations By State
2. use aggregate to calculate the total population for each state

Ans : >> db.zipcodes.aggregate([{$group:{\_id:"$state",total\_pop:{$sum:"$pop"}}}]).pretty()

2. sort the results by population, highest first

Ans : >>

db.zipcodes.aggregate([{$group:{\_id:"$state",total\_pop:{$sum:"$pop"}}},{$sort:{"total\_pop": -1}}]).pretty()

3. limit the results to just the first 3 results. What are the top 3 states in

population?

Ans : >>

db.zipcodes.aggregate([{$group:{\_id:"$state",total\_pop:{$sum:"$pop"}}},{$sort:{"total\_pop": -1}},{$limit:3}]).pretty()

Q.]Populations by City

1. use aggregate to calculate the total population for each city (you have to use

city/state combination). You can use a combination for the \_id of the $group: {

city: '$city', state: '$state' }

Ans : >>

db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"},total\_pop:{$sum:"$pop"}}}]).pretty()

2. sort the results by population, highest first

Ans : >> db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"},total\_pop:{$sum:"$pop"}}},{$sort:{"total\_pop": -1}}]).pretty()

3. limit the results to just the first 3 results. What are the top 3 cities in

population?

Ans : >>

db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"},total\_pop:{$sum:"$pop"}}},{$sort:{"total\_pop": -1}},{$limit:3}]).pretty()

4. What are the top 3 cities in population in Texas?

Ans : >>

db.zipcodes.aggregate([{$match:{state:"TX"}},{$group:{\_id:{city:"$city",state:"$state"},total\_pop:{$sum:"$pop"}}},{$sort:{"total\_pop": -1}},{$limit:3}]).pretty()

Bonus

1. Write a query to get the average city population for each state.

Ans: >>

db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"}, avg\_pop:{$avg:"$pop"}}}])

2. What are the top 3 states in terms of average city population?

Ans: >>

db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"}, avg\_pop:{$avg:"$pop"}}},{$sort:{"total\_pop": -1}},{$limit:3}])