MongoDB -Aggregation Exercises

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

Atlanta Population

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

   Atlas atlas-ca07dn-shard-0 [primary] population>
     db.zipcodes.find({city:"ATLANTA",state:"GA"})

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

Atlas atlas-ca07dn-shard-0 [primary] population>

db.zipcodes.aggregate([

... {

..... $match:{city:"ATLANTA",state:"GA"}}])

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

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

Populations By State

1. use aggregate to calculate the total population for each state

Atlas atlas-ca07dn-shard-0 [primary] population> db.zipcodes.aggregate([

... {

..... $group:{

.... _id:"$state",

.... count:{$sum:1}}}])

2. sort the results by population, highest first

Atlas atlas-ca07dn-shard-0 [primary] population> db.zipcodes.aggregate([{$group:{_id:{state:"$state"}}},{$sort:{pop:-1}}])

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

Atlas atlas-ca07dn-shard-0 [primary] population> db.zipcodes.aggregate([{$group: {_id: {state:"$state"}}},{$sort:{"_id.pop":-1}},{$limit:3}])

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' }

2. sort the results by population, highest first

Atlas atlas-ca07dn-shard-0 [primary] population> db.zipcodes.aggregate([{$group:{_id:{city:"$city"}}},{$sort:{pop:-1}}])

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

Atlas atlas-ca07dn-shard-0 [primary] population> db.zipcodes.aggregate([{$group: {_id: {city:"$city"}}},{$sort:{"_id.pop":-1}},{$limit:3}])

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

Bonus

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

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

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

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