MongoDB -Aggregation

Import the zips.json file into your MongoDB. Database name "population" and collection name is "zipcode"

mongoimport --db population --collection zipcode --file zips.json

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

and state is GA.

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

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

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

Solutions:

1. db.zipcode.find({$and:[{city:"ATLANTA"},{state:"GA"}]})
2. db.zipcode.aggregate([{$match:{$and:[{city:"ATLANTA"},{state:"GA"}]}}])
3. db.zipcode.aggregate([{$group:{ \_id:"$loc"}},{$count:"total\_zipcodes"}])
4. db.zipcode.aggregate([{$group:{\_id:{city:"ATLANTA"},totalpop:{$sum:"$pop"}}}])

Populations By State

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

2. sort the results by population, highest first

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

population?

Solutions:

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

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

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

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

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

population?

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

Solutions:

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

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

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

4.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.

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

Solutions:

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

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