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.

db.zipcodes.find({"city":"ATLANTA"},{"state":"GA"})

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

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

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

db.zipcodes.aggregate({$match:{city:"ATLANTA"}},{$group:{\_id:"$city",total:{$sum:1}}})

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

db.zipcodes.aggregate({$match:{city:"ATLANTA"}},{$group:{\_id:"$city",population:{$sum:"$pop"}}})

Populations By State

1. use aggregate to calculate the total population for each state db.zipcodes.aggregate({$group:{\_id:{state:"$state"},population:{$sum:"$pop"}}})

2. sort the results by population, highest first db.zipcodes.aggregate([{$group:{\_id:{state:"$state"},population:{$sum:"$pop"}}},{$sort:{population:-1}}])

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

db.zipcodes.aggregate([{$group:{\_id:{state:"$state"},population:{$sum:"$pop"}}},{$sort:{population:-1}},{$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'}

db.zipcodes.aggregate({$group:{\_id:{city:"$city",state:"$state"},population:{$sum:"$pop"}}})

2. sort the results by population, highest first db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"},population:{$sum:"$pop"}}},{$sort:{population:-1}}])

3. limit the results to just the first 3 results. What are the top 3 cities in population? db.zipcodes.aggregate([{$group:{\_id:{city:"$city",state:"$state"},population:{$sum:"$pop"}}},{$sort:{population:-1}},{$limit:3}])

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

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

Bonus

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

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

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

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