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:{city:"ATLANTA",state:"GA"}}])

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

db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$group:{_id:{_id:"$_id"}}},{$count:"
Number of zip code"}])

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

db.zipcodes.aggregate([{$group:{_id:"$city",population:{$sum:"$pop"}}},{$match:{_id:"ATLAN
TA"}}])

Populations By State

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

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

2. sort the results by population, highest first

db.zipcodes.aggregate([{$group:{_id:"$state",Totalpopulation:{$sum:"$pop"}}},{$sort:{Totalpo
pulation:-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",Totalpopulation:{$sum:"$pop"}}},{$sort:{Totalpo
pulation:-1}},{$limit:3}])

{ _id: 'CA', Totalpopulation: 29754890 },

{ _id: 'NY', Totalpopulation: 17990402 },

{ _id: 'TX', Totalpopulation: 16984601 }

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",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?

{ _id: { city: 'CHICAGO', state: 'IL' }, population: 2452177 },

{ _id: { city: 'BROOKLYN', state: 'NY' }, population: 2300504 },

{ _id: { city: 'LOS ANGELES', state: 'CA' }, population: 2102295 }

Bonus

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

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

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

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

{ _id: 'BELL GARDENS', AvgPopulation: 99568 },

{ _id: 'ARLETA', AvgPopulation: 88114 },

{ _id: 'SOUTH GATE', AvgPopulation: 87026 }