MongoDB-Aggregation Exercises

**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:”$city”,count:{$sum:1}}}])

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

* db.zipcodes.aggreagate([{$match:{city:”ATLANTA”},{$group:{\_id:”$city”,total:{$sum:”$pop”}}}])

**Populations By State**

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

* db.zipcodes.aggregate([{$group:{\_id:”$state”, totpop:{$sum:”$pop”}}}])

2. sort the results by population, highest first

* db.zipcodes.aggregate([{$group:{\_id:”$state”, totpop:{$sum:”$pop”}}},{$sort:{totpop:-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”, totpop:{$sum:”$pop”}}},{$sort:{totpop:-1}},{$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:”$state”}, total:{$sum:”$pop”}}})

2. sort the results by population, highest first

* db.zipcodes.aggregate([

{$group:{\_id:{city:”$city”,state:”$state”}, total:{$sum:”$pop”}}},

{$sort:{total:-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:”$state”}, total:{$sum:”$pop”}}},{$sort:{total:-1}})

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

* db.zipcodes.aggregate([{$match:{state:”TX”}},{$group:{\_id:”$city”, population:{$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"},Average:{$avg:"$pop"}}},{$sort:{Average:-1}} ])

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

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