**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({$and:[{city:"ATLANTA"},{state:"GA"}]}).pretty()**

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

=>**db.zipcodes.aggregate({$match:{city:"ATLANTA",state:"GA"}}).pretty()**

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

=>**db.zipcodes.aggregate([{$group:{\_id:"",count:{$sum:1}}}])**

**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:"$state",count:{$sum:"$pop"}}}}])**

1. sort the results by population, highest first

**=>db.zipcodes.aggregate([{$sort:{"pop":-1}}])**

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

population?

=>**db.zipcodes.aggregate([{$sort:{"pop":-1}},{$limit:3}])**

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

**=>db.zipcodes.aggregate([{$match:{state:"TX"}},{$sort:{pop:-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: “$city”}, pop: {$sum: “$pop”}}},{$group: {\_id: “$id.state”, avgCityPop: {$avg: “$pop”}}}])**

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

**=>db.zipcodes.aggregate([{$group: {\_id: {state: “$state”, city: “$city”}, pop: {$sum: “$pop”}}},{$group: {\_id: “$id.state”, avgCityPop: {$avg: “$pop”}}},{$sort:{avgCityPop:-1}},{$limit:3}])**