**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"})

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

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

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

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

1. use $group to find the total population in Atlanta. db.zipcodes.aggregate({$group:{\_id:"ATLANTA", total:{$sum:"$pop"}}})

# Populations By State

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

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

1. sort the results by population, highest first

db.zipcodes.aggregate({$sort:{pop:-1}})

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

db.zipcodes.aggregate({$sort:{pop:-1}},{$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"} } })

1. sort the results by population, highest first

db.zipcodes.aggregate({$sort:{pop:-1}})

1. 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})

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

# Bonus

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

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

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

db.zipcodes.aggregate([ {$group:{\_id:{city:"$city",state:"$state"},avgPop:{$avg:"$pop"}}},

{$sort:{avgPop:-1}},

{$limit:3} ])