**MongoDB-Assignment Aggregation**

Name: Ch Rajesh

Gmail-ID: [chagantipati.rajesh09@gmail.com](mailto:chagantipati.rajesh09@gmail.com)

# 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([{$match:{city:"ATLANTA"}},{$group:{\_id:"$city",count:{$sum:1}}}])

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

db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$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",total:{$sum:'$pop'}}}])

1. sort the results by population, highest first

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

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

db.zipcodes.aggregate([{$group:{\_id:"$state",total:{$sum:"$pop"}}},{$sort:{"total":-1}},{$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([{$group:{\_id:{city:"$city",statestate:"$state",Tot\_pop:{$sum:"$pop"}}}},{$sort:{"\_id.Tot\_pop":-1}}])

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

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

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

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