# 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 ({$and:[{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.

In aggregation tab (Compass)select

$group

{

\_id: “ATLANTA”,

Total: {

$sum: “$pop”

}

}

# Populations By State

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

$group

{

\_id: “$state”,

Total: {

$sum: “$pop”

}

}

1. sort the results by population, highest first

$sort

{

pop: -1

}

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

$sort

{

pop: -1

}

Add the stage

In next stage

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' }

$group

{

\_id: {

City: “$city”,

State: “$state”

},

Total: {

$sum: “$pop”

}

}

1. sort the results by population, highest first

$sort

{

Total: -1

}

Save the stage

In the next stage select limit

Limit 3

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

{

Total: -1

}

Save and in the next stage select limit and enter 3 as limit

3

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

$group

{

\_id: {city: “$city”,

State: “$Texas”},

$sum: “$pop”

}

}

Add the stage

In the next stage

$sort

{

Total: -1

}

Add the stage

In the next stage select limit

$limit

3

# Bonus

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

$group

{

\_id: {city: “$city”,

State: “$state”},

Avgpop: {

$avg: “$pop”

}

}

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

$group

{

\_id: {city: “$city”,

State: “$state”},

Avg: {

$avg: “$pop”

}

}

$sort

{

Avgpop: -1

}

Add and select limit in next stage

$limit

3