 mongoimport --db population --collection zipcodes --file F:\zip.json

**Atlanta Population**

1. use db.zipcodes.find() to filter results to only the results where city is ATLANTA and state is GA.

Ans) db.zipcodes.find({ $and: [{"city":"ATLANTA"} , {"state":"GA"}]})

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

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

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

Ans) db.zipcodes.aggregate (

{$group: {\_id: {city: 'ATLANTA', state: '$state'},

zips: {$sum: 1}

}})

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

Ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: 'ATLANTA'},

population: {$sum: '$pop'}

}

})

**Populations By State**

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

ans) db.zipcodes.aggregate (

{$group:

{

\_id: '$state',

population: {$sum: '$pop'}

}

}

)

1. sort the results by population, highest first

ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: '$state'},

population: {$sum: '$pop'}

}

},

{$sort:

{population: -1}

}

)

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

Ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: '$state'},

population: {$sum: '$pop'}

}

},

{$sort:

{population: -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' }

ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: '$state'},

population: {$sum: '$pop'}

}

}

)

1. sort the results by population, highest first

ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: '$state'},

population: {$sum: '$pop'}

}

},

{$sort:

{population: -1}

}

)

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

Ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: '$state'},

population: {$sum: '$pop'}

}

},

{$sort:

{population: -1}

},

{$limit:3}

)

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

Ans) db.zipcodes.aggregate (

{$group:

{

\_id: {city: '$city', state: 'Texas'},

population: {$sum: '$pop'}

}

},

{$sort:

{population: -1}

},

{$limit:3}

)

**Bonus**

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

Ans) 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?

Ans) db.zipcodes.aggregate( [

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

{ $group: { \_id: "$\_id.state", avgCityPop: { $avg: "$pop" } } },

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

{$limit:3}

] )