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

Done using Compass

**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**({**state**:** 'GA'**,**city**:** 'ATLANTA'**})**

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

db.zipcodes. aggregate **([** **{** $match **:** **{**state**:** 'GA'**,**city**:** 'ATLANTA'**}}** **]);**

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

db.zipcodes. aggregate **([** **{** $match **:** **{**state**:** 'GA'**,**city**:** 'ATLANTA'**}},** **{** $group**:** **{** \_id**:** null**,** count**:** **{** $sum**:** 1 **}** **}** **}** **]);**

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

db.zipcodes. aggregate **([** **{** $match **:** **{**state**:** 'GA'**,**city**:** 'ATLANTA'**}},** **{** $group**:** **{** Total Population**:** **{** $sum**:** “pop” **}** **}** **}** **]);**

**Populations By State**

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

db.zipcodes.aggregate**(** **[{** $group**:** **{** \_id**:** "$state"**,** totalPop**:** **{** $sum**:** "$pop" **}** **}** **}** **]);**

2. sort the results by population, highest first

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

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

db.zipcodes.aggregate**(** **[{** $group**:** **{** \_id**:** "$state"**,** totalPop**:** **{** $sum**:** "$pop" **}** **}** **}**

**{** $sort**:** **{** pop**:** 1 **}** **},**

**{** $group**:**

**{**

\_id **:** "$\_id.state"**,**

Statename**:** **{** $last**:** "$\_id.state" **},**

StatePop**:** **{** $last**:** "$totalpop" **},**

**}**

**},**

**{**$group**:**

**{**

**{** $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( [ { $group:{ \_id: { state: "$state", city: "$city" },pop: { $sum: "$pop" }} }]);

1. sort the results by population, highest first

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

pop: { $sum: "$pop" }} }, ,

{ $sort: { pop: 1 } }, {$group:

{

{ $limit : 3 }

}

}, { $group:

{

cityname: { $last: "$\_id.city" },

}

},

]);

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

db.zipcodes.aggregate( [ { $group:{

\_id: { state: "TEXAS", city: "$city" },

pop: { $sum: "$pop" }} }, ,

{ $sort: { pop: 1 } }, {$group:

{

{ $limit : 3 }

}

}, { $group:

{

\_id : "$\_id.state",

cityname: { $last: "$\_id.city" },

}

},

]);