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

Ans

Atlas atlas-pn61nz-shard-0 [primary] population> **db.createCollection("zipcodes")**

{ ok: 1 }

**Atlanta Population**

1.

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

and state is GA.

Ans:

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.find({$and:[{city:'ATLANTA'},{state:'GA'}]})**

[

{

\_id: '30303',

city: 'ATLANTA',

loc: [ -84.388846, 33.752504 ],

pop: 1845,

state: 'GA'

},

{

\_id: '30305',

city: 'ATLANTA',

loc: [ -84.385145, 33.831963 ],

pop: 19122,

state: 'GA'

},

{

\_id: '30306',

city: 'ATLANTA',

loc: [ -84.351418, 33.786027 ],

pop: 20081,

state: 'GA'

},

{

\_id: '30307',

city: 'ATLANTA',

loc: [ -84.335957, 33.769138 ],

pop: 16330,

state: 'GA'

},

{

\_id: '30308',

city: 'ATLANTA',

loc: [ -84.375744, 33.771839 ],

pop: 8549,

state: 'GA'

},

{

\_id: '30309',

city: 'ATLANTA',

loc: [ -84.388338, 33.798407 ],

pop: 14766,

state: 'GA'

},

{

\_id: '30310',

city: 'ATLANTA',

loc: [ -84.423173, 33.727849 ],

pop: 34017,

state: 'GA'

},

{

\_id: '30311',

city: 'ATLANTA',

loc: [ -84.470219, 33.722957 ],

pop: 34880,

state: 'GA'

},

{

\_id: '30312',

city: 'ATLANTA',

loc: [ -84.378125, 33.746749 ],

pop: 17683,

state: 'GA'

},

{

\_id: '30313',

city: 'ATLANTA',

loc: [ -84.39352, 33.76825 ],

pop: 8038,

state: 'GA'

},

{

\_id: '30314',

city: 'ATLANTA',

loc: [ -84.425546, 33.756103 ],

pop: 26649,

state: 'GA'

},

{

\_id: '30315',

city: 'ATLANTA',

loc: [ -84.380771, 33.705062 ],

pop: 41061,

state: 'GA'

},

{

\_id: '30316',

city: 'ATLANTA',

loc: [ -84.333913, 33.721686 ],

pop: 34668,

state: 'GA'

},

{

\_id: '30317',

city: 'ATLANTA',

loc: [ -84.31685, 33.749788 ],

pop: 16395,

state: 'GA'

},

{

\_id: '30318',

city: 'ATLANTA',

loc: [ -84.445432, 33.786454 ],

pop: 53894,

state: 'GA'

},

{

\_id: '30319',

city: 'ATLANTA',

loc: [ -84.335091, 33.868728 ],

pop: 32138,

state: 'GA'

},

{

\_id: '30324',

city: 'ATLANTA',

loc: [ -84.354867, 33.820609 ],

pop: 15044,

state: 'GA'

},

{

\_id: '30326',

city: 'ATLANTA',

loc: [ -84.358232, 33.848168 ],

pop: 125,

state: 'GA'

},

{

\_id: '30327',

city: 'ATLANTA',

loc: [ -84.419966, 33.862723 ],

pop: 18467,

state: 'GA'

},

{

\_id: '30329',

city: 'ATLANTA',

loc: [ -84.321402, 33.823555 ],

pop: 17013,

state: 'GA'

}

]

Type "it" for more

2.

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

Ans:

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$match:{$and:[{city:"ATLANTA"},{state:"GA"}]}}])**

[

{

\_id: '30303',

city: 'ATLANTA',

loc: [ -84.388846, 33.752504 ],

pop: 1845,

state: 'GA'

},

{

\_id: '30305',

city: 'ATLANTA',

loc: [ -84.385145, 33.831963 ],

pop: 19122,

state: 'GA'

},

{

\_id: '30306',

city: 'ATLANTA',

loc: [ -84.351418, 33.786027 ],

pop: 20081,

state: 'GA'

},

{

\_id: '30307',

city: 'ATLANTA',

loc: [ -84.335957, 33.769138 ],

pop: 16330,

state: 'GA'

},

{

\_id: '30308',

city: 'ATLANTA',

loc: [ -84.375744, 33.771839 ],

pop: 8549,

state: 'GA'

},

{

\_id: '30309',

city: 'ATLANTA',

loc: [ -84.388338, 33.798407 ],

pop: 14766,

state: 'GA'

},

{

\_id: '30310',

city: 'ATLANTA',

loc: [ -84.423173, 33.727849 ],

pop: 34017,

state: 'GA'

},

{

\_id: '30311',

city: 'ATLANTA',

loc: [ -84.470219, 33.722957 ],

pop: 34880,

state: 'GA'

},

{

\_id: '30312',

city: 'ATLANTA',

loc: [ -84.378125, 33.746749 ],

pop: 17683,

state: 'GA'

},

{

\_id: '30313',

city: 'ATLANTA',

loc: [ -84.39352, 33.76825 ],

pop: 8038,

state: 'GA'

},

{

\_id: '30314',

city: 'ATLANTA',

loc: [ -84.425546, 33.756103 ],

pop: 26649,

state: 'GA'

},

{

\_id: '30315',

city: 'ATLANTA',

loc: [ -84.380771, 33.705062 ],

pop: 41061,

state: 'GA'

},

{

\_id: '30316',

city: 'ATLANTA',

loc: [ -84.333913, 33.721686 ],

pop: 34668,

state: 'GA'

},

{

\_id: '30317',

city: 'ATLANTA',

loc: [ -84.31685, 33.749788 ],

pop: 16395,

state: 'GA'

},

{

\_id: '30318',

city: 'ATLANTA',

loc: [ -84.445432, 33.786454 ],

pop: 53894,

state: 'GA'

},

{

\_id: '30319',

city: 'ATLANTA',

loc: [ -84.335091, 33.868728 ],

pop: 32138,

state: 'GA'

},

{

\_id: '30324',

city: 'ATLANTA',

loc: [ -84.354867, 33.820609 ],

pop: 15044,

state: 'GA'

},

{

\_id: '30326',

city: 'ATLANTA',

loc: [ -84.358232, 33.848168 ],

pop: 125,

state: 'GA'

},

{

\_id: '30327',

city: 'ATLANTA',

loc: [ -84.419966, 33.862723 ],

pop: 18467,

state: 'GA'

},

{

\_id: '30329',

city: 'ATLANTA',

loc: [ -84.321402, 33.823555 ],

pop: 17013,

state: 'GA'

}

]

3.

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

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$group:{\_id:'$id'}},{$count:'unique\_zipcodes'}])**

[ { unique\_zipcodes: 1 } ]

4.

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

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$group:{\_id:'$pop'}}])**

[

{ \_id: 0 }, { \_id: 1845 },

{ \_id: 32138 }, { \_id: 643 },

{ \_id: 24573 }, { \_id: 34017 },

{ \_id: 53894 }, { \_id: 15044 },

{ \_id: 2450 }, { \_id: 2466 },

{ \_id: 472 }, { \_id: 26649 },

{ \_id: 1978 }, { \_id: 125 },

{ \_id: 18467 }, { \_id: 19122 },

{ \_id: 34880 }, { \_id: 41061 },

{ \_id: 16395 }, { \_id: 19057 }

]

Type "it" for more

**Populations By State**

1.

**use aggregate to calculate the total population for each state**

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id:'$state',totalpop:{$sum:'$pop'}}}])**

[

{ \_id: 'LA', totalpop: 4217595 },

{ \_id: 'OR', totalpop: 2842321 },

{ \_id: 'MI', totalpop: 9295297 },

{ \_id: 'OK', totalpop: 3145585 },

{ \_id: 'NV', totalpop: 1201833 },

{ \_id: 'TN', totalpop: 4876457 },

{ \_id: 'KY', totalpop: 3675484 },

{ \_id: 'UT', totalpop: 1722850 },

{ \_id: 'DE', totalpop: 666168 },

{ \_id: 'DC', totalpop: 606900 },

{ \_id: 'IN', totalpop: 5544136 },

{ \_id: 'KS', totalpop: 2475285 },

{ \_id: 'AL', totalpop: 4040587 },

{ \_id: 'AZ', totalpop: 3665228 },

{ \_id: 'NJ', totalpop: 7730188 },

{ \_id: 'HI', totalpop: 1108229 },

{ \_id: 'MO', totalpop: 5110648 },

{ \_id: 'WA', totalpop: 4866692 },

{ \_id: 'CT', totalpop: 3287116 },

{ \_id: 'WI', totalpop: 4891769 }

]

2.

**sort the results by population, highest first**

Atlas atlas-pn61nz-shard-0 [primary] population> db.zipcodes.aggregate([{$sort:{pop:1}}])

[

{

\_id: '60623',

city: 'CHICAGO',

loc: [ -87.7157, 41.849015 ],

pop: 112047,

state: 'IL'

},

{

\_id: '11226',

city: 'BROOKLYN',

loc: [ -73.956985, 40.646694 ],

pop: 111396,

state: 'NY'

},

{

\_id: '10021',

city: 'NEW YORK',

loc: [ -73.958805, 40.768476 ],

pop: 106564,

state: 'NY'

},

{

\_id: '10025',

city: 'NEW YORK',

loc: [ -73.968312, 40.797466 ],

pop: 100027,

state: 'NY'

},

{

\_id: '90201',

city: 'BELL GARDENS',

loc: [ -118.17205, 33.969177 ],

pop: 99568,

state: 'CA'

},

{

\_id: '60617',

city: 'CHICAGO',

loc: [ -87.556012, 41.725743 ],

pop: 98612,

state: 'IL'

},

{

\_id: '90011',

city: 'LOS ANGELES',

loc: [ -118.258189, 34.007856 ],

pop: 96074,

state: 'CA'

},

{

\_id: '60647',

city: 'CHICAGO',

loc: [ -87.704322, 41.920903 ],

pop: 95971,

state: 'IL'

},

{

\_id: '60628',

city: 'CHICAGO',

loc: [ -87.624277, 41.693443 ],

pop: 94317,

state: 'IL'

},

{

\_id: '90650',

city: 'NORWALK',

loc: [ -118.081767, 33.90564 ],

pop: 94188,

state: 'CA'

},

{

\_id: '60620',

city: 'CHICAGO',

loc: [ -87.654251, 41.741119 ],

pop: 92005,

state: 'IL'

},

{

\_id: '60629',

city: 'CHICAGO',

loc: [ -87.706936, 41.778149 ],

pop: 91814,

state: 'IL'

},

{

\_id: '60609',

city: 'CHICAGO',

loc: [ -87.653279, 41.809721 ],

pop: 89762,

state: 'IL'

},

{

\_id: '60618',

city: 'CHICAGO',

loc: [ -87.704214, 41.946401 ],

pop: 88377,

state: 'IL'

},

{

\_id: '11373',

city: 'JACKSON HEIGHTS',

loc: [ -73.878551, 40.740388 ],

pop: 88241,

state: 'NY'

},

{

\_id: '91331',

city: 'ARLETA',

loc: [ -118.420692, 34.258081 ],

pop: 88114,

state: 'CA'

},

{

\_id: '11212',

city: 'BROOKLYN',

loc: [ -73.914483, 40.662474 ],

pop: 87079,

state: 'NY'

},

{

\_id: '90280',

city: 'SOUTH GATE',

loc: [ -118.201349, 33.94617 ],

pop: 87026,

state: 'CA'

},

{

\_id: '11385',

city: 'RIDGEWOOD',

loc: [ -73.896122, 40.703613 ],

pop: 85732,

state: 'NY'

},

{

\_id: '10467',

city: 'BRONX',

loc: [ -73.871242, 40.873671 ],

pop: 85710,

state: 'NY'

}

]

3.

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

population?

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id:'$state',totalpop:{$sum:'$pop'}}},{$sort:{totalpopulation:-1}},{$limit:3}])**

[

{ \_id: 'WV', totalpop: 1793146 },

{ \_id: 'NE', totalpop: 1578139 },

{ \_id: 'PA', totalpop: 11881643 }

**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' }

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id: { city: '$city', state: '$state' } ,totalpop:{$sum:'$pop'}}}])**

[

{ \_id: { city: 'KANEOHE', state: 'HI' }, totalpop: 55236 },

{ \_id: { city: 'SWARTZ CREEK', state: 'MI' }, totalpop: 18263 },

{ \_id: { city: 'DENISON', state: 'IA' }, totalpop: 8507 },

{ \_id: { city: 'HARRAH', state: 'OK' }, totalpop: 6766 },

{ \_id: { city: 'YOUNGSVILLE', state: 'PA' }, totalpop: 1853 },

{ \_id: { city: 'NEWCASTLE', state: 'WY' }, totalpop: 4833 },

{ \_id: { city: 'ELMHURST', state: 'IL' }, totalpop: 43637 },

{ \_id: { city: 'EAST MARION', state: 'NY' }, totalpop: 717 },

{ \_id: { city: 'DIGGS', state: 'VA' }, totalpop: 491 },

{ \_id: { city: 'NATURAL DAM', state: 'AR' }, totalpop: 497 },

{ \_id: { city: 'STIGLER', state: 'OK' }, totalpop: 4932 },

{ \_id: { city: 'EAST CORINTH', state: 'VT' }, totalpop: 279 },

{ \_id: { city: 'NEWCOMB', state: 'TN' }, totalpop: 52 },

{ \_id: { city: 'WHITLEYVILLE', state: 'TN' }, totalpop: 1272 },

{ \_id: { city: 'CLINTON', state: 'WI' }, totalpop: 3627 },

{ \_id: { city: 'ORELAND', state: 'PA' }, totalpop: 7397 },

{ \_id: { city: 'ADAMS', state: 'MA' }, totalpop: 9901 },

{ \_id: { city: 'ROOPVILLE', state: 'GA' }, totalpop: 2952 },

{ \_id: { city: 'JENNINGS', state: 'FL' }, totalpop: 2977 },

{ \_id: { city: 'ASHUELOT', state: 'NH' }, totalpop: 285 }

]

Type "it" for more

2.

sort the results by population, highest first

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id: { city: '$city', state: '$state' } ,totalpop:{$sum:'$pop'}}},{$sort:{totalpop:-1}}])**

[

{ \_id: { city: 'CHICAGO', state: 'IL' }, totalpop: 2452177 },

{ \_id: { city: 'BROOKLYN', state: 'NY' }, totalpop: 2300504 },

{ \_id: { city: 'LOS ANGELES', state: 'CA' }, totalpop: 2102295 },

{ \_id: { city: 'HOUSTON', state: 'TX' }, totalpop: 2095918 },

{ \_id: { city: 'PHILADELPHIA', state: 'PA' }, totalpop: 1610956 },

{ \_id: { city: 'NEW YORK', state: 'NY' }, totalpop: 1476790 },

{ \_id: { city: 'BRONX', state: 'NY' }, totalpop: 1209548 },

{ \_id: { city: 'SAN DIEGO', state: 'CA' }, totalpop: 1049298 },

{ \_id: { city: 'DETROIT', state: 'MI' }, totalpop: 963243 },

{ \_id: { city: 'DALLAS', state: 'TX' }, totalpop: 940191 },

{ \_id: { city: 'PHOENIX', state: 'AZ' }, totalpop: 890853 },

{ \_id: { city: 'MIAMI', state: 'FL' }, totalpop: 825232 },

{ \_id: { city: 'SAN JOSE', state: 'CA' }, totalpop: 816653 },

{ \_id: { city: 'SAN ANTONIO', state: 'TX' }, totalpop: 811792 },

{ \_id: { city: 'BALTIMORE', state: 'MD' }, totalpop: 733081 },

{ \_id: { city: 'SAN FRANCISCO', state: 'CA' }, totalpop: 723993 },

{ \_id: { city: 'MEMPHIS', state: 'TN' }, totalpop: 632837 },

{ \_id: { city: 'SACRAMENTO', state: 'CA' }, totalpop: 628279 },

{ \_id: { city: 'JACKSONVILLE', state: 'FL' }, totalpop: 610160 },

{ \_id: { city: 'ATLANTA', state: 'GA' }, totalpop: 609591 }

3.

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

population?

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id: { city: '$city', state: '$state' } ,totalpop:{$sum:'$pop'}}},{$sort:{totalpop:-1}},{$l$limit:3}])**

[

{ \_id: { city: 'CHICAGO', state: 'IL' }, totalpop: 2452177 },

{ \_id: { city: 'BROOKLYN', state: 'NY' }, totalpop: 2300504 },

{ \_id: { city: 'LOS ANGELES', state: 'CA' }, totalpop: 2102295 }

]

4.

What are the top 3 cities in population in Texas?

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$match:{state:'TX'}},{$group:{\_id:{state:'$state',city:'$city'},totalpop:{$sum:'$pop'}}},{$sort:{tototalpop:-1}},{$limit:3}])**

**[**

{ \_id: { state: 'TX', city: 'HOUSTON' }, totalpop: 2095918 },

{ \_id: { state: 'TX', city: 'DALLAS' }, totalpop: 940191 },

{ \_id: { state: 'TX', city: 'SAN ANTONIO' }, totalpop: 811792 }

]

**Bonus**

1.

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

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id:{state:'$state',city:'$city'},Avgpop:{$avg:'$pop'}}}])**

[

{ \_id: { state: 'AR', city: 'MAGNESS' }, Avgpop: 413 },

{ \_id: { state: 'TX', city: 'WOODWAY' }, Avgpop: 14756 },

{ \_id: { state: 'IL', city: 'GARDNER' }, Avgpop: 2349 },

{ \_id: { state: 'VT', city: 'BELLOWS FALLS' }, Avgpop: 5433 },

{ \_id: { state: 'CA', city: 'MONTEBELLO' }, Avgpop: 59068 },

{ \_id: { state: 'WA', city: 'GRANGER' }, Avgpop: 3562 },

{ \_id: { state: 'MN', city: 'TWIN VALLEY' }, Avgpop: 2108 },

{ \_id: { state: 'NY', city: 'WEST FULTON' }, Avgpop: 72 },

{ \_id: { state: 'OH', city: 'BRADNER' }, Avgpop: 1934 },

{ \_id: { state: 'TX', city: 'FLOWER MOUND' }, Avgpop: 16825 },

{ \_id: { state: 'GA', city: 'YATESVILLE' }, Avgpop: 1188 },

{ \_id: { state: 'IA', city: 'SHELLSBURG' }, Avgpop: 1463 },

{ \_id: { state: 'CA', city: 'PESCADERO' }, Avgpop: 670 },

{ \_id: { state: 'TN', city: 'OOLTEWAH' }, Avgpop: 17419 },

{ \_id: { state: 'ME', city: 'LIMERICK' }, Avgpop: 2982 },

{ \_id: { state: 'IN', city: 'FLAT ROCK' }, Avgpop: 1496 },

{ \_id: { state: 'MS', city: 'EGYPT' }, Avgpop: 5258 },

{ \_id: { state: 'KY', city: 'GILLY' }, Avgpop: 555 },

{ \_id: { state: 'CA', city: 'QUINCY' }, Avgpop: 6303 },

{ \_id: { state: 'ID', city: 'FRANKLIN' }, Avgpop: 1699 }

]

Type "it" for more

2.

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

Atlas atlas-pn61nz-shard-0 [primary] population> **db.zipcodes.aggregate([{$group:{\_id:{state:'$state',city:'$city'},Avgpop:{$avg:'$pop'}}},{$sort:{Avgpop:-1}},{$limit:3}])**

[

{ \_id: { state: 'CA', city: 'BELL GARDENS' }, Avgpop: 99568 },

{ \_id: { state: 'CA', city: 'NORWALK' }, Avgpop: 94188 },

{ \_id: { state: 'CA', city: 'ARLETA' }, Avgpop: 88114 }

]