Assignment 2 mongodb

Atlanta Populations

1.

Answer:

> db.zipcodes.find({"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.

Answer:

> db.zipcodes.aggregate([

... {$match:{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" }

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{ "\_id" : "30310", "city" : "ATLANTA", "loc" : [ -84.423173, 33.727849 ], "pop" : 34017, "state" : "GA" }

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{ "\_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

3.

Answer:

> db.zipcodes.aggregate([{$group:{\_id:"$city"}}, {$count:"ATLANTA"}])

{ "ATLANTA" : 16584 }

4.

Answer:

> db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$group: {\_id:"$city", totalPop:{$sum:"$pop"}}}])

{ "\_id" : "ATLANTA", "totalPop" : 630046 }

Population by State

1.

Answer:

> db.zipcodes.aggregate( [

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

... ] )

{ "\_id" : "DE", "totalPop" : 666168 }

{ "\_id" : "ND", "totalPop" : 638272 }

{ "\_id" : "KS", "totalPop" : 2475285 }

{ "\_id" : "AK", "totalPop" : 544698 }

{ "\_id" : "DC", "totalPop" : 606900 }

{ "\_id" : "NE", "totalPop" : 1578139 }

{ "\_id" : "UT", "totalPop" : 1722850 }

{ "\_id" : "MT", "totalPop" : 798948 }

{ "\_id" : "RI", "totalPop" : 1003218 }

{ "\_id" : "CO", "totalPop" : 3293755 }

{ "\_id" : "AL", "totalPop" : 4040587 }

{ "\_id" : "MD", "totalPop" : 4781379 }

{ "\_id" : "WY", "totalPop" : 453528 }

{ "\_id" : "HI", "totalPop" : 1108229 }

{ "\_id" : "TX", "totalPop" : 16984601 }

{ "\_id" : "MO", "totalPop" : 5110648 }

{ "\_id" : "MA", "totalPop" : 6016425 }

{ "\_id" : "CT", "totalPop" : 3287116 }

{ "\_id" : "NY", "totalPop" : 17990402 }

{ "\_id" : "KY", "totalPop" : 3675484 }

2.

Answer: > db.zipcodes.aggregate (

... {$group:

... {

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

... population: {$sum: '$pop'}

... }

... },

... {$sort:

... {population: -1}

... }

... )

{ "\_id" : { "city" : "CHICAGO", "state" : "IL" }, "population" : 2452177 }

{ "\_id" : { "city" : "BROOKLYN", "state" : "NY" }, "population" : 2300504 }

{ "\_id" : { "city" : "LOS ANGELES", "state" : "CA" }, "population" : 2102295 }

{ "\_id" : { "city" : "HOUSTON", "state" : "TX" }, "population" : 2095918 }

{ "\_id" : { "city" : "PHILADELPHIA", "state" : "PA" }, "population" : 1610956 }

{ "\_id" : { "city" : "NEW YORK", "state" : "NY" }, "population" : 1476790 }

{ "\_id" : { "city" : "BRONX", "state" : "NY" }, "population" : 1209548 }

{ "\_id" : { "city" : "SAN DIEGO", "state" : "CA" }, "population" : 1049298 }

{ "\_id" : { "city" : "DETROIT", "state" : "MI" }, "population" : 963243 }

{ "\_id" : { "city" : "DALLAS", "state" : "TX" }, "population" : 940191 }

{ "\_id" : { "city" : "PHOENIX", "state" : "AZ" }, "population" : 890853 }

{ "\_id" : { "city" : "MIAMI", "state" : "FL" }, "population" : 825232 }

{ "\_id" : { "city" : "SAN JOSE", "state" : "CA" }, "population" : 816653 }

{ "\_id" : { "city" : "SAN ANTONIO", "state" : "TX" }, "population" : 811792 }

{ "\_id" : { "city" : "BALTIMORE", "state" : "MD" }, "population" : 733081 }

{ "\_id" : { "city" : "SAN FRANCISCO", "state" : "CA" }, "population" : 723993 }

{ "\_id" : { "city" : "MEMPHIS", "state" : "TN" }, "population" : 632837 }

{ "\_id" : { "city" : "SACRAMENTO", "state" : "CA" }, "population" : 628279 }

{ "\_id" : { "city" : "JACKSONVILLE", "state" : "FL" }, "population" : 610160 }

{ "\_id" : { "city" : "ATLANTA", "state" : "GA" }, "population" : 609591 }

3.

Answer:

> db.zipcodes.aggregate( [ { $sort : { pop : -1} },{ $limit:3 } ] )

{ "\_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" }

Population By City:

1.

Answer:

> db.zipcodes.aggregate([

... {

... $group: {

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

... pop: {$sum: "$pop"}

... }

... }

... ])

{ "\_id" : { "state" : "SD", "city" : "NISLAND" }, "pop" : 313 }

{ "\_id" : { "state" : "FL", "city" : "PALATKA" }, "pop" : 24263 }

{ "\_id" : { "state" : "TX", "city" : "COOPER" }, "pop" : 3438 }

{ "\_id" : { "state" : "IA", "city" : "MILTON" }, "pop" : 851 }

{ "\_id" : { "state" : "NY", "city" : "BOMBAY" }, "pop" : 1042 }

{ "\_id" : { "state" : "AR", "city" : "POWHATAN" }, "pop" : 476 }

{ "\_id" : { "state" : "GA", "city" : "WRENS" }, "pop" : 4782 }

{ "\_id" : { "state" : "CO", "city" : "NUNN" }, "pop" : 505 }

{ "\_id" : { "state" : "NE", "city" : "ROCKVILLE" }, "pop" : 489 }

{ "\_id" : { "state" : "MS", "city" : "HERMANVILLE" }, "pop" : 1683 }

{ "\_id" : { "state" : "ND", "city" : "BUCYRUS" }, "pop" : 2793 }

{ "\_id" : { "state" : "SC", "city" : "LYMAN" }, "pop" : 4515 }

{ "\_id" : { "state" : "WA", "city" : "VALLEYFORD" }, "pop" : 698 }

{ "\_id" : { "state" : "PA", "city" : "SYKESVILLE" }, "pop" : 1387 }

{ "\_id" : { "state" : "IA", "city" : "CENTER JUNCTION" }, "pop" : 647 }

{ "\_id" : { "state" : "TX", "city" : "KENEDY" }, "pop" : 5118 }

{ "\_id" : { "state" : "SD", "city" : "FORT MEADE" }, "pop" : 124 }

{ "\_id" : { "state" : "GA", "city" : "REIDSVILLE" }, "pop" : 6286 }

{ "\_id" : { "state" : "AL", "city" : "SELMA" }, "pop" : 39500 }

{ "\_id" : { "state" : "MS", "city" : "JAYESS" }, "pop" : 1621 }

Type "it" for more

2.

Answer:

> db.zipcodes.aggregate (

... {$group:

... {

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

... population: {$sum: '$pop'}

... }

... },

... {$sort:

... {population: -1}

... }

... )

{ "\_id" : { "city" : "CHICAGO", "state" : "IL" }, "population" : 2452177 }

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{ "\_id" : { "city" : "HOUSTON", "state" : "TX" }, "population" : 2095918 }

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{ "\_id" : { "city" : "PHOENIX", "state" : "AZ" }, "population" : 890853 }

{ "\_id" : { "city" : "MIAMI", "state" : "FL" }, "population" : 825232 }

{ "\_id" : { "city" : "SAN JOSE", "state" : "CA" }, "population" : 816653 }

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{ "\_id" : { "city" : "SACRAMENTO", "state" : "CA" }, "population" : 628279 }

{ "\_id" : { "city" : "JACKSONVILLE", "state" : "FL" }, "population" : 610160 }

{ "\_id" : { "city" : "ATLANTA", "state" : "GA" }, "population" : 609591 }

3.

Answer:

> db.zipcodes.aggregate (

... {$group:

... {

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

... population: {$sum: '$pop'}

... }

... },

... {$sort:

... {population: -1}

... },

... {$limit:3}

... )

{ "\_id" : { "city" : "CHICAGO" }, "population" : 2452177 }

{ "\_id" : { "city" : "BROOKLYN" }, "population" : 2341387 }

{ "\_id" : { "city" : "HOUSTON" }, "population" : 2123053 }

4.

Answer:

> db.zipcodes.aggregate([

... {$match:{state:"TX"}},

... {$group:{\_id:{city:"$city",state:"$city"},

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

... {$sort:{population:-1}},

... {$limit:3}])

{ "\_id" : { "city" : "HOUSTON", "state" : "HOUSTON" }, "population" : 2095918 }

{ "\_id" : { "city" : "DALLAS", "state" : "DALLAS" }, "population" : 940191 }

{ "\_id" : { "city" : "SAN ANTONIO", "state" : "SAN ANTONIO" }, "population" : 811792 }

Bonus:

1.

Answer:

> db.zipcodes.aggregate([{$group: {\_id:"$city", totalPop:{$avg:"$pop"}}}])

{ "\_id" : "KLAMATH FALLS", "totalPop" : 24894 }

{ "\_id" : "BLOOMDALE", "totalPop" : 1331 }

{ "\_id" : "BROADDUS", "totalPop" : 4860 }

{ "\_id" : "COLD SPRINGS", "totalPop" : 201 }

{ "\_id" : "LAKE STATION", "totalPop" : 12437 }

{ "\_id" : "RANDOLPH", "totalPop" : 5942 }

{ "\_id" : "GLADY", "totalPop" : 615 }

{ "\_id" : "BELGIUM", "totalPop" : 2333 }

{ "\_id" : "JENSEN BEACH", "totalPop" : 13656 }

{ "\_id" : "MONTELLO", "totalPop" : 4392 }

{ "\_id" : "PONTIAC", "totalPop" : 17068 }

{ "\_id" : "REED", "totalPop" : 1956 }

{ "\_id" : "SOUTH GLASTONBUR", "totalPop" : 3614 }

{ "\_id" : "CHUNCHULA", "totalPop" : 1322 }

{ "\_id" : "MILLERVILLE", "totalPop" : 863 }

{ "\_id" : "NATCHEZ", "totalPop" : 18404 }

{ "\_id" : "MELFA", "totalPop" : 2987 }

{ "\_id" : "FLANDREAU", "totalPop" : 3851 }

{ "\_id" : "YAWKEY", "totalPop" : 690 }

{ "\_id" : "HUTCHINS", "totalPop" : 2716 }

Type "it" for more

2.

Answer:

> db.zipcodes.aggregate([{$group: {\_id:"$city", totalPop:{$avg:"$pop"}}},{$sort:{totalPop:-1}},{$limit:3}])

{ "\_id" : "BELL GARDENS", "totalPop" : 99568 }

{ "\_id" : "ARLETA", "totalPop" : 88114 }

{ "\_id" : "SOUTH GATE", "totalPop" : 87026 }