Part 1

Microsoft Windows [Version 10.0.14393]

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C:\Program Files\MongoDB\Server\5.0\bin>mongo

MongoDB shell version v5.0.3

connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb

Implicit session: session { "id" : UUID("9a1dfc02-fcec-40e0-8b98-0bceaa594db4") }

MongoDB server version: 5.0.3

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Warning: the "mongo" shell has been superseded by "mongosh",

which delivers improved usability and compatibility.The "mongo" shell has been deprecated and will be removed in

an upcoming release.

We recommend you begin using "mongosh".

For installation instructions, see

https://docs.mongodb.com/mongodb-shell/install/

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The server generated these startup warnings when booting:

2021-10-22T23:27:39.905+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted

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Enable MongoDB's free cloud-based monitoring service, which will then receive and display

metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you

and anyone you share the URL with. MongoDB may use this information to make product

improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()

To permanently disable this reminder, run the following command: db.disableFreeMonitoring()

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> show dbs

admin 0.000GB

config 0.000GB

local 0.000GB

population 0.002GB

> show collections

> use population

switched to db population

> show collections

Zipcodes

1:

> 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:

> 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" }

Type "it" for more

3:

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

{ "loc" : 31 }

4:

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

{ "\_id" : { "city" : "ATLANTA" }, "pop" : 630046 }

Part 2

1:

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

{ "\_id" : { "state" : "VT" }, "pop" : 562758 }

{ "\_id" : { "state" : "NJ" }, "pop" : 7730188 }

{ "\_id" : { "state" : "AL" }, "pop" : 4040587 }

{ "\_id" : { "state" : "IN" }, "pop" : 5544136 }

{ "\_id" : { "state" : "MN" }, "pop" : 4372982 }

{ "\_id" : { "state" : "IL" }, "pop" : 11427576 }

{ "\_id" : { "state" : "NH" }, "pop" : 1109252 }

{ "\_id" : { "state" : "PA" }, "pop" : 11881643 }

{ "\_id" : { "state" : "KS" }, "pop" : 2475285 }

{ "\_id" : { "state" : "AR" }, "pop" : 2350725 }

{ "\_id" : { "state" : "RI" }, "pop" : 1003218 }

{ "\_id" : { "state" : "LA" }, "pop" : 4217595 }

{ "\_id" : { "state" : "NC" }, "pop" : 6628637 }

{ "\_id" : { "state" : "SC" }, "pop" : 3486703 }

{ "\_id" : { "state" : "OH" }, "pop" : 10846517 }

{ "\_id" : { "state" : "FL" }, "pop" : 12686644 }

{ "\_id" : { "state" : "NM" }, "pop" : 1515069 }

{ "\_id" : { "state" : "WV" }, "pop" : 1793146 }

{ "\_id" : { "state" : "SD" }, "pop" : 695397 }

{ "\_id" : { "state" : "VA" }, "pop" : 6181479 }

Type "it" for more

> it

{ "\_id" : { "state" : "IA" }, "pop" : 2776420 }

{ "\_id" : { "state" : "CA" }, "pop" : 29754890 }

{ "\_id" : { "state" : "HI" }, "pop" : 1108229 }

{ "\_id" : { "state" : "OR" }, "pop" : 2842321 }

{ "\_id" : { "state" : "AK" }, "pop" : 544698 }

{ "\_id" : { "state" : "TN" }, "pop" : 4876457 }

{ "\_id" : { "state" : "MS" }, "pop" : 2573216 }

{ "\_id" : { "state" : "TX" }, "pop" : 16984601 }

{ "\_id" : { "state" : "DE" }, "pop" : 666168 }

{ "\_id" : { "state" : "ID" }, "pop" : 1006749 }

{ "\_id" : { "state" : "MA" }, "pop" : 6016425 }

{ "\_id" : { "state" : "UT" }, "pop" : 1722850 }

{ "\_id" : { "state" : "DC" }, "pop" : 606900 }

{ "\_id" : { "state" : "KY" }, "pop" : 3675484 }

{ "\_id" : { "state" : "AZ" }, "pop" : 3665228 }

{ "\_id" : { "state" : "NV" }, "pop" : 1201833 }

{ "\_id" : { "state" : "OK" }, "pop" : 3145585 }

{ "\_id" : { "state" : "MI" }, "pop" : 9295297 }

{ "\_id" : { "state" : "ND" }, "pop" : 638272 }

{ "\_id" : { "state" : "NE" }, "pop" : 1578139 }

Type "it" for more

> it

{ "\_id" : { "state" : "CO" }, "pop" : 3293755 }

{ "\_id" : { "state" : "MO" }, "pop" : 5110648 }

{ "\_id" : { "state" : "WY" }, "pop" : 453528 }

{ "\_id" : { "state" : "WA" }, "pop" : 4866692 }

{ "\_id" : { "state" : "NY" }, "pop" : 17990402 }

{ "\_id" : { "state" : "MT" }, "pop" : 798948 }

{ "\_id" : { "state" : "WI" }, "pop" : 4891769 }

{ "\_id" : { "state" : "CT" }, "pop" : 3287116 }

{ "\_id" : { "state" : "MD" }, "pop" : 4781379 }

{ "\_id" : { "state" : "GA" }, "pop" : 6478216 }

{ "\_id" : { "state" : "ME" }, "pop" : 1226648 }

2:

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

{ "\_id" : { "state" : "CA" }, "pop" : 29754890 }

{ "\_id" : { "state" : "NY" }, "pop" : 17990402 }

{ "\_id" : { "state" : "TX" }, "pop" : 16984601 }

{ "\_id" : { "state" : "FL" }, "pop" : 12686644 }

{ "\_id" : { "state" : "PA" }, "pop" : 11881643 }

{ "\_id" : { "state" : "IL" }, "pop" : 11427576 }

{ "\_id" : { "state" : "OH" }, "pop" : 10846517 }

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{ "\_id" : { "state" : "IN" }, "pop" : 5544136 }

{ "\_id" : { "state" : "MO" }, "pop" : 5110648 }

{ "\_id" : { "state" : "WI" }, "pop" : 4891769 }

{ "\_id" : { "state" : "TN" }, "pop" : 4876457 }

{ "\_id" : { "state" : "WA" }, "pop" : 4866692 }

{ "\_id" : { "state" : "MD" }, "pop" : 4781379 }

{ "\_id" : { "state" : "MN" }, "pop" : 4372982 }

Type "it" for more

> it

{ "\_id" : { "state" : "LA" }, "pop" : 4217595 }

{ "\_id" : { "state" : "AL" }, "pop" : 4040587 }

{ "\_id" : { "state" : "KY" }, "pop" : 3675484 }

{ "\_id" : { "state" : "AZ" }, "pop" : 3665228 }

{ "\_id" : { "state" : "SC" }, "pop" : 3486703 }

{ "\_id" : { "state" : "CO" }, "pop" : 3293755 }

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{ "\_id" : { "state" : "OK" }, "pop" : 3145585 }

{ "\_id" : { "state" : "OR" }, "pop" : 2842321 }

{ "\_id" : { "state" : "IA" }, "pop" : 2776420 }

{ "\_id" : { "state" : "MS" }, "pop" : 2573216 }

{ "\_id" : { "state" : "KS" }, "pop" : 2475285 }

{ "\_id" : { "state" : "AR" }, "pop" : 2350725 }

{ "\_id" : { "state" : "WV" }, "pop" : 1793146 }

{ "\_id" : { "state" : "UT" }, "pop" : 1722850 }

{ "\_id" : { "state" : "NE" }, "pop" : 1578139 }

{ "\_id" : { "state" : "NM" }, "pop" : 1515069 }

{ "\_id" : { "state" : "ME" }, "pop" : 1226648 }

{ "\_id" : { "state" : "NV" }, "pop" : 1201833 }

{ "\_id" : { "state" : "NH" }, "pop" : 1109252 }

Type "it" for more

> it

{ "\_id" : { "state" : "HI" }, "pop" : 1108229 }

{ "\_id" : { "state" : "ID" }, "pop" : 1006749 }

{ "\_id" : { "state" : "RI" }, "pop" : 1003218 }

{ "\_id" : { "state" : "MT" }, "pop" : 798948 }

{ "\_id" : { "state" : "SD" }, "pop" : 695397 }

{ "\_id" : { "state" : "DE" }, "pop" : 666168 }

{ "\_id" : { "state" : "ND" }, "pop" : 638272 }

{ "\_id" : { "state" : "DC" }, "pop" : 606900 }

{ "\_id" : { "state" : "VT" }, "pop" : 562758 }

{ "\_id" : { "state" : "AK" }, "pop" : 544698 }

{ "\_id" : { "state" : "WY" }, "pop" : 453528 }

3:

db.zipcodes.aggregate([{$group:{\_id:{state:"$state"},pop:{$sum:"$pop"}}},{$sort:{pop:-1}},{$limit:3}])

{ "\_id" : { "state" : "CA" }, "pop" : 29754890 }

{ "\_id" : { "state" : "NY" }, "pop" : 17990402 }

{ "\_id" : { "state" : "TX" }, "pop" : 16984601 }

Part 3

1:

{ "\_id" : { "city" : "SCOTTSBURG", "state" : "NY" }, "pop" : 612 }

{ "\_id" : { "city" : "CROPPER", "state" : "KY" }, "pop" : 2669 }

{ "\_id" : { "city" : "WALNUT", "state" : "KS" }, "pop" : 383 }

{ "\_id" : { "city" : "FLEMING", "state" : "CO" }, "pop" : 853 }

{ "\_id" : { "city" : "FLUSHING", "state" : "OH" }, "pop" : 2719 }

{ "\_id" : { "city" : "SHELTER ISLAND H", "state" : "NY" }, "pop" : 1119 }

{ "\_id" : { "city" : "EDGAR", "state" : "NE" }, "pop" : 795 }

{ "\_id" : { "city" : "NORTH WARREN", "state" : "PA" }, "pop" : 22507 }

{ "\_id" : { "city" : "SPENCERVILLE", "state" : "OH" }, "pop" : 5745 }

{ "\_id" : { "city" : "HALLSBORO", "state" : "NC" }, "pop" : 2551 }

{ "\_id" : { "city" : "AGUA DULCE", "state" : "CA" }, "pop" : 31741 }

{ "\_id" : { "city" : "HILMAR", "state" : "CA" }, "pop" : 6676 }

{ "\_id" : { "city" : "LILLIWAUP", "state" : "WA" }, "pop" : 635 }

{ "\_id" : { "city" : "TRIPOLI", "state" : "WI" }, "pop" : 374 }

{ "\_id" : { "city" : "GOLDSBORO", "state" : "MD" }, "pop" : 1179 }

{ "\_id" : { "city" : "RIO OSO", "state" : "CA" }, "pop" : 1102 }

{ "\_id" : { "city" : "HOPATCONG", "state" : "NJ" }, "pop" : 11920 }

{ "\_id" : { "city" : "ALICEVILLE", "state" : "AL" }, "pop" : 5196 }

{ "\_id" : { "city" : "PLANTERSVILLE", "state" : "MS" }, "pop" : 2913 }

{ "\_id" : { "city" : "HOPEWELL", "state" : "NJ" }, "pop" : 3858 }

Type "it" for more

> it

{ "\_id" : { "city" : "MIDDLEBURG", "state" : "PA" }, "pop" : 6546 }

{ "\_id" : { "city" : "KINSMAN", "state" : "OH" }, "pop" : 3397 }

{ "\_id" : { "city" : "CASSOPOLIS", "state" : "MI" }, "pop" : 6622 }

{ "\_id" : { "city" : "HANCOCK", "state" : "IA" }, "pop" : 427 }

{ "\_id" : { "city" : "AMA", "state" : "LA" }, "pop" : 1300 }

{ "\_id" : { "city" : "SMETHPORT", "state" : "PA" }, "pop" : 4375 }

{ "\_id" : { "city" : "TIMPSON", "state" : "TX" }, "pop" : 3060 }

{ "\_id" : { "city" : "DEVILS TOWER", "state" : "WY" }, "pop" : 119 }

{ "\_id" : { "city" : "BANDON", "state" : "OR" }, "pop" : 4852 }

{ "\_id" : { "city" : "VASHON", "state" : "WA" }, "pop" : 9309 }

{ "\_id" : { "city" : "LOCKWOOD", "state" : "NY" }, "pop" : 951 }

{ "\_id" : { "city" : "BAKER", "state" : "ND" }, "pop" : 74 }

{ "\_id" : { "city" : "WAYNESBURG", "state" : "OH" }, "pop" : 3149 }

{ "\_id" : { "city" : "HALLOCK", "state" : "MN" }, "pop" : 1729 }

{ "\_id" : { "city" : "MANASQUAN", "state" : "NJ" }, "pop" : 10341 }

{ "\_id" : { "city" : "MOUNT KISCO", "state" : "NY" }, "pop" : 14361 }

{ "\_id" : { "city" : "ADAIRSVILLE", "state" : "GA" }, "pop" : 7273 }

{ "\_id" : { "city" : "JENKS", "state" : "OK" }, "pop" : 8086 }

{ "\_id" : { "city" : "NORTON HILL", "state" : "NY" }, "pop" : 163 }

{ "\_id" : { "city" : "LEAKEY", "state" : "TX" }, "pop" : 1142 }

Type "it" for more

> it

{ "\_id" : { "city" : "ALLAKAKET", "state" : "AK" }, "pop" : 170 }

{ "\_id" : { "city" : "MONMOUTH", "state" : "OR" }, "pop" : 8071 }

{ "\_id" : { "city" : "FORKS TOWNSHIP", "state" : "PA" }, "pop" : 65784 }

{ "\_id" : { "city" : "WATERLOO", "state" : "WI" }, "pop" : 4106 }

{ "\_id" : { "city" : "WACO", "state" : "GA" }, "pop" : 2297 }

{ "\_id" : { "city" : "SHELDON", "state" : "IA" }, "pop" : 5585 }

{ "\_id" : { "city" : "ISLE LA MOTTE", "state" : "VT" }, "pop" : 408 }

{ "\_id" : { "city" : "OAKLAND CITY", "state" : "IN" }, "pop" : 4244 }

{ "\_id" : { "city" : "SCUDDY", "state" : "KY" }, "pop" : 296 }

{ "\_id" : { "city" : "COMBS", "state" : "KY" }, "pop" : 1001 }

{ "\_id" : { "city" : "INGLESIDE", "state" : "TX" }, "pop" : 5871 }

{ "\_id" : { "city" : "FRANKLIN", "state" : "NE" }, "pop" : 1305 }

{ "\_id" : { "city" : "SWEENY", "state" : "TX" }, "pop" : 5077 }

{ "\_id" : { "city" : "BROOKFIELD", "state" : "MA" }, "pop" : 2968 }

{ "\_id" : { "city" : "FENWICK", "state" : "WV" }, "pop" : 393 }

{ "\_id" : { "city" : "ROCKWELL", "state" : "IA" }, "pop" : 2009 }

{ "\_id" : { "city" : "MAPLETON", "state" : "MN" }, "pop" : 2299 }

{ "\_id" : { "city" : "CLINTON", "state" : "LA" }, "pop" : 3028 }

{ "\_id" : { "city" : "EDMOND", "state" : "WV" }, "pop" : 69 }

{ "\_id" : { "city" : "KETTLE ISLAND", "state" : "KY" }, "pop" : 710 }

Type "it" for more

> it

{ "\_id" : { "city" : "HEBRON", "state" : "IL" }, "pop" : 1606 }

{ "\_id" : { "city" : "RUFE", "state" : "OK" }, "pop" : 244 }

{ "\_id" : { "city" : "DEARY", "state" : "ID" }, "pop" : 1483 }

{ "\_id" : { "city" : "FREISTATT", "state" : "MO" }, "pop" : 515 }

{ "\_id" : { "city" : "FALLS CHURCH", "state" : "VA" }, "pop" : 14864 }

{ "\_id" : { "city" : "HINKLE", "state" : "KY" }, "pop" : 269 }

{ "\_id" : { "city" : "BELFRY", "state" : "MT" }, "pop" : 64 }

{ "\_id" : { "city" : "AUGUSTA", "state" : "MO" }, "pop" : 302 }

{ "\_id" : { "city" : "WESTERVILLE", "state" : "NE" }, "pop" : 172 }

{ "\_id" : { "city" : "PEAR VALLEY", "state" : "TX" }, "pop" : 110 }

{ "\_id" : { "city" : "BROOKS", "state" : "GA" }, "pop" : 1662 }

{ "\_id" : { "city" : "MULINO", "state" : "OR" }, "pop" : 2935 }

{ "\_id" : { "city" : "GOLOVIN", "state" : "AK" }, "pop" : 3706 }

{ "\_id" : { "city" : "WELLINGTON", "state" : "IL" }, "pop" : 782 }

{ "\_id" : { "city" : "WOODRUM", "state" : "VA" }, "pop" : 34323 }

{ "\_id" : { "city" : "EDWARDS", "state" : "NY" }, "pop" : 1069 }

{ "\_id" : { "city" : "ELIZABETHTON", "state" : "TN" }, "pop" : 32046 }

{ "\_id" : { "city" : "LAKEPORT", "state" : "CA" }, "pop" : 10351 }

{ "\_id" : { "city" : "WASHINGTON", "state" : "OK" }, "pop" : 1670 }

{ "\_id" : { "city" : "SAINT INIGOES", "state" : "MD" }, "pop" : 583 }

Type "it" for more

> it

{ "\_id" : { "city" : "HAWKS", "state" : "MI" }, "pop" : 876 }

{ "\_id" : { "city" : "WA KEENEY", "state" : "KS" }, "pop" : 2711 }

{ "\_id" : { "city" : "BENNETT", "state" : "CO" }, "pop" : 3885 }

{ "\_id" : { "city" : "LONG ISLAND", "state" : "VA" }, "pop" : 1308 }

{ "\_id" : { "city" : "BALDWIN", "state" : "NY" }, "pop" : 30959 }

{ "\_id" : { "city" : "OCEAN REEF", "state" : "FL" }, "pop" : 12076 }

{ "\_id" : { "city" : "SHELL LAKE", "state" : "WI" }, "pop" : 3450 }

{ "\_id" : { "city" : "FRUITHURST", "state" : "AL" }, "pop" : 1473 }

{ "\_id" : { "city" : "SOUTH CHARLESTON", "state" : "WV" }, "pop" : 18377 }

{ "\_id" : { "city" : "CLEMONS", "state" : "NY" }, "pop" : 169 }

{ "\_id" : { "city" : "QUILCENE", "state" : "WA" }, "pop" : 1592 }

{ "\_id" : { "city" : "CAPITOL ISLAND", "state" : "ME" }, "pop" : 2800 }

{ "\_id" : { "city" : "ZUMBROTA", "state" : "MN" }, "pop" : 3535 }

{ "\_id" : { "city" : "WOODWARD", "state" : "OK" }, "pop" : 14279 }

{ "\_id" : { "city" : "DELRAY BEACH", "state" : "FL" }, "pop" : 81673 }

{ "\_id" : { "city" : "HAYESVILLE", "state" : "NC" }, "pop" : 5965 }

{ "\_id" : { "city" : "OWLS HEAD", "state" : "NY" }, "pop" : 329 }

{ "\_id" : { "city" : "MARVIN", "state" : "SD" }, "pop" : 146 }

{ "\_id" : { "city" : "NOYES", "state" : "MN" }, "pop" : 67 }

{ "\_id" : { "city" : "RAMONA", "state" : "SD" }, "pop" : 641 }

Type "it" for more

> it

{ "\_id" : { "city" : "RIVES", "state" : "TN" }, "pop" : 2424 }

{ "\_id" : { "city" : "CALIO", "state" : "ND" }, "pop" : 572 }

{ "\_id" : { "city" : "GAULEY BRIDGE", "state" : "WV" }, "pop" : 826 }

{ "\_id" : { "city" : "CHUATHBALUK", "state" : "AK" }, "pop" : 352 }

{ "\_id" : { "city" : "PROVENCAL", "state" : "LA" }, "pop" : 2700 }

{ "\_id" : { "city" : "GIBBSBORO", "state" : "NJ" }, "pop" : 2383 }

{ "\_id" : { "city" : "GUILFORD", "state" : "IN" }, "pop" : 2595 }

{ "\_id" : { "city" : "HONAKER", "state" : "KY" }, "pop" : 772 }

{ "\_id" : { "city" : "OWATONNA", "state" : "MN" }, "pop" : 23860 }

{ "\_id" : { "city" : "BLOCKTON", "state" : "IA" }, "pop" : 476 }

{ "\_id" : { "city" : "CHIRENO", "state" : "TX" }, "pop" : 3983 }

{ "\_id" : { "city" : "NEWRY", "state" : "ME" }, "pop" : 300 }

{ "\_id" : { "city" : "CUYLER", "state" : "NY" }, "pop" : 920 }

{ "\_id" : { "city" : "CENTERVILLE", "state" : "TN" }, "pop" : 5955 }

{ "\_id" : { "city" : "AUGUSTA", "state" : "MI" }, "pop" : 2896 }

{ "\_id" : { "city" : "BACONTON", "state" : "GA" }, "pop" : 2566 }

{ "\_id" : { "city" : "ALLISON", "state" : "PA" }, "pop" : 326 }

{ "\_id" : { "city" : "MOUNT PLEASANT M", "state" : "PA" }, "pop" : 1876 }

{ "\_id" : { "city" : "DOLGEVILLE", "state" : "NY" }, "pop" : 4205 }

{ "\_id" : { "city" : "HANNA", "state" : "WY" }, "pop" : 1585 }

Type "it" for more

> it

{ "\_id" : { "city" : "LATHAM", "state" : "OH" }, "pop" : 351 }

{ "\_id" : { "city" : "HANKSVILLE", "state" : "UT" }, "pop" : 373 }

{ "\_id" : { "city" : "BONETRAILL", "state" : "ND" }, "pop" : 16473 }

{ "\_id" : { "city" : "OLNEY", "state" : "MO" }, "pop" : 351 }

{ "\_id" : { "city" : "SAN MATEO", "state" : "CA" }, "pop" : 59468 }

{ "\_id" : { "city" : "EAST QUOGUE", "state" : "NY" }, "pop" : 4181 }

{ "\_id" : { "city" : "HAWKINSVILLE", "state" : "GA" }, "pop" : 9154 }

{ "\_id" : { "city" : "CROMBERG", "state" : "CA" }, "pop" : 1774 }

{ "\_id" : { "city" : "BURKETT", "state" : "TX" }, "pop" : 237 }

{ "\_id" : { "city" : "MANORVILLE", "state" : "PA" }, "pop" : 418 }

{ "\_id" : { "city" : "BEAR LAKE", "state" : "PA" }, "pop" : 1042 }

{ "\_id" : { "city" : "POTSDAM", "state" : "NY" }, "pop" : 16342 }

{ "\_id" : { "city" : "RICEBORO", "state" : "GA" }, "pop" : 1737 }

{ "\_id" : { "city" : "AVOCA", "state" : "WI" }, "pop" : 1072 }

{ "\_id" : { "city" : "GRISSOM AIR FORC", "state" : "IN" }, "pop" : 4364 }

{ "\_id" : { "city" : "RUTHVEN", "state" : "IA" }, "pop" : 1283 }

{ "\_id" : { "city" : "LINCOLN VILLAGE", "state" : "OH" }, "pop" : 37615 }

{ "\_id" : { "city" : "MAYVILLE", "state" : "MI" }, "pop" : 4271 }

{ "\_id" : { "city" : "FOLEY", "state" : "MN" }, "pop" : 4078 }

{ "\_id" : { "city" : "WORTHINGTON", "state" : "MO" }, "pop" : 438 }

Type "it" for more

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{ "\_id" : { "city" : "JUNIPER HILLS", "state" : "CA" }, "pop" : 11152 }

{ "\_id" : { "city" : "LAKE BUENA VISTA", "state" : "FL" }, "pop" : 6 }

{ "\_id" : { "city" : "PINEHURST", "state" : "NC" }, "pop" : 5803 }

{ "\_id" : { "city" : "TROUT CREEK", "state" : "MI" }, "pop" : 480 }

{ "\_id" : { "city" : "COMPTON", "state" : "AR" }, "pop" : 233 }

{ "\_id" : { "city" : "NEOSHO FALLS", "state" : "KS" }, "pop" : 392 }

{ "\_id" : { "city" : "CRAPO", "state" : "MD" }, "pop" : 173 }

{ "\_id" : { "city" : "LULING", "state" : "TX" }, "pop" : 6587 }

{ "\_id" : { "city" : "TSAILE", "state" : "AZ" }, "pop" : 1593 }

{ "\_id" : { "city" : "CASTALIAN SPRING", "state" : "TN" }, "pop" : 1544 }

{ "\_id" : { "city" : "LYONS", "state" : "KS" }, "pop" : 4931 }

{ "\_id" : { "city" : "TRENT", "state" : "TX" }, "pop" : 494 }

{ "\_id" : { "city" : "PHILO", "state" : "IL" }, "pop" : 1377 }

{ "\_id" : { "city" : "LAURENS", "state" : "IA" }, "pop" : 2055 }

{ "\_id" : { "city" : "CLEMENTS", "state" : "IL" }, "pop" : 1280 }

{ "\_id" : { "city" : "IRENE", "state" : "SD" }, "pop" : 1320 }

{ "\_id" : { "city" : "PETERSBURG", "state" : "NE" }, "pop" : 784 }

{ "\_id" : { "city" : "MANSFIELD", "state" : "TX" }, "pop" : 17381 }

{ "\_id" : { "city" : "BRIGHTWOOD", "state" : "OR" }, "pop" : 788 }

{ "\_id" : { "city" : "GARDINER", "state" : "OR" }, "pop" : 14 }

Type "it" for more

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{ "\_id" : { "city" : "WAVERLY", "state" : "VA" }, "pop" : 4581 }

{ "\_id" : { "city" : "TIPTON", "state" : "IA" }, "pop" : 5751 }

{ "\_id" : { "city" : "SIDNEY", "state" : "MT" }, "pop" : 7229 }

{ "\_id" : { "city" : "TRION", "state" : "GA" }, "pop" : 5963 }

{ "\_id" : { "city" : "PRINSBURG", "state" : "MN" }, "pop" : 931 }

{ "\_id" : { "city" : "MCINTOSH", "state" : "MN" }, "pop" : 1088 }

{ "\_id" : { "city" : "GOLDSTON", "state" : "NC" }, "pop" : 1814 }

{ "\_id" : { "city" : "JENNINGS", "state" : "KS" }, "pop" : 347 }

{ "\_id" : { "city" : "SUNNYVALE", "state" : "CA" }, "pop" : 117550 }

{ "\_id" : { "city" : "JENNINGS", "state" : "MD" }, "pop" : 3138 }

{ "\_id" : { "city" : "LOTHIAN", "state" : "MD" }, "pop" : 5081 }

{ "\_id" : { "city" : "RADCLIFF", "state" : "OH" }, "pop" : 1413 }

{ "\_id" : { "city" : "JESUP", "state" : "IA" }, "pop" : 3505 }

{ "\_id" : { "city" : "MOUNT AUBURN", "state" : "IL" }, "pop" : 1011 }

{ "\_id" : { "city" : "GALENA", "state" : "KS" }, "pop" : 5961 }

{ "\_id" : { "city" : "WEST RUSH", "state" : "NY" }, "pop" : 2481 }

{ "\_id" : { "city" : "LIVINGSTON", "state" : "TN" }, "pop" : 7274 }

{ "\_id" : { "city" : "SULPHUR", "state" : "IN" }, "pop" : 303 }

{ "\_id" : { "city" : "KYANA", "state" : "IN" }, "pop" : 2012 }

{ "\_id" : { "city" : "MASSENA", "state" : "NY" }, "pop" : 16145 }

Type "it" for more

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{ "\_id" : { "city" : "ALINE", "state" : "OK" }, "pop" : 526 }

{ "\_id" : { "city" : "MAYFAIR", "state" : "NY" }, "pop" : 27516 }

{ "\_id" : { "city" : "ANCRAMDALE", "state" : "NY" }, "pop" : 918 }

{ "\_id" : { "city" : "YELLOW JACKET", "state" : "CO" }, "pop" : 126 }

{ "\_id" : { "city" : "CINCINNATI", "state" : "OH" }, "pop" : 342537 }

{ "\_id" : { "city" : "BARDOLPH", "state" : "IL" }, "pop" : 365 }

{ "\_id" : { "city" : "WINFRED", "state" : "SD" }, "pop" : 424 }

{ "\_id" : { "city" : "SUISUN CITY", "state" : "CA" }, "pop" : 31081 }

{ "\_id" : { "city" : "FULTON", "state" : "AL" }, "pop" : 2163 }

{ "\_id" : { "city" : "COMER", "state" : "GA" }, "pop" : 3134 }

{ "\_id" : { "city" : "CERES", "state" : "VA" }, "pop" : 833 }

{ "\_id" : { "city" : "EAST HARDWICK", "state" : "VT" }, "pop" : 493 }

{ "\_id" : { "city" : "SHEFFIELD", "state" : "IA" }, "pop" : 1988 }

{ "\_id" : { "city" : "WOODSBORO", "state" : "TX" }, "pop" : 2559 }

{ "\_id" : { "city" : "TELLURIDE", "state" : "CO" }, "pop" : 1850 }

{ "\_id" : { "city" : "OAKDALE", "state" : "LA" }, "pop" : 9577 }

{ "\_id" : { "city" : "PITTSBORO", "state" : "MS" }, "pop" : 1053 }

{ "\_id" : { "city" : "MORRISDALE", "state" : "PA" }, "pop" : 1235 }

{ "\_id" : { "city" : "STEVENSVILLE", "state" : "MD" }, "pop" : 8630 }

{ "\_id" : { "city" : "KEMPTON", "state" : "PA" }, "pop" : 2387 }

Type "it" for more

2:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3:

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

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

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

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

4:

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

{ "\_id" : { "city" : "HOUSTON" }, "pop" : 2095918 }

{ "\_id" : { "city" : "DALLAS" }, "pop" : 940191 }

{ "\_id" : { "city" : "SAN ANTONIO" }, "pop" : 811792 }

Part 4

1:

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

{ "\_id" : { "city" : "NEW SWEDEN", "state" : "ME" }, "average\_pop" : 935 }

{ "\_id" : { "city" : "LELAND", "state" : "IA" }, "average\_pop" : 333 }

{ "\_id" : { "city" : "WEST POLAND", "state" : "ME" }, "average\_pop" : 733 }

{ "\_id" : { "city" : "BURKE", "state" : "NY" }, "average\_pop" : 1279 }

{ "\_id" : { "city" : "BLUE HILL FALLS", "state" : "ME" }, "average\_pop" : 375 }

{ "\_id" : { "city" : "LEWISTON", "state" : "NE" }, "average\_pop" : 189 }

{ "\_id" : { "city" : "MICO", "state" : "TX" }, "average\_pop" : 230 }

{ "\_id" : { "city" : "CRYSTAL", "state" : "MN" }, "average\_pop" : 33233 }

{ "\_id" : { "city" : "SERGEANT BLUFF", "state" : "IA" }, "average\_pop" : 2853 }

{ "\_id" : { "city" : "BAXTER", "state" : "KY" }, "average\_pop" : 2151 }

{ "\_id" : { "city" : "WINDSOR", "state" : "CT" }, "average\_pop" : 27815 }

{ "\_id" : { "city" : "BULLFROG", "state" : "UT" }, "average\_pop" : 125 }

{ "\_id" : { "city" : "SAINT JAMES", "state" : "NY" }, "average\_pop" : 14211 }

{ "\_id" : { "city" : "PIMA", "state" : "AZ" }, "average\_pop" : 2881 }

{ "\_id" : { "city" : "NAVAJO", "state" : "AZ" }, "average\_pop" : 41 }

{ "\_id" : { "city" : "CEDAR CREST", "state" : "NM" }, "average\_pop" : 1860 }

{ "\_id" : { "city" : "PORT HUENEME CBC", "state" : "CA" }, "average\_pop" : 3389 }

{ "\_id" : { "city" : "BOSTON", "state" : "NY" }, "average\_pop" : 2617 }

{ "\_id" : { "city" : "MINSTER", "state" : "OH" }, "average\_pop" : 4436 }

{ "\_id" : { "city" : "WELTY", "state" : "OK" }, "average\_pop" : 286 }

Type "it" for more

2:

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

{ "\_id" : { "city" : "BELL GARDENS", "state" : "CA" }, "average\_pop" : 99568 }

{ "\_id" : { "city" : "NORWALK", "state" : "CA" }, "average\_pop" : 94188 }

{ "\_id" : { "city" : "ARLETA", "state" : "CA" }, "average\_pop" : 88114 }