**ASSIGNMENT 2**

> use population

switched to db population

> db.createCollection("zipcodes")

{ "ok" : 1 }

C:\Users\goravi>mongoimport --db population --collection zipcodes --type json --file C:\Users\goravi\Downloads\zip.json

2022-10-19T11:03:58.742+0530 connected to: mongodb://localhost/

2022-10-19T11:03:59.284+0530 29353 document(s) imported successfully. 0 document(s) failed to import.

**Atlanta Population:**

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

{ "\_id" : "30303", "city" : "ATLANTA", "loc" : [ -84.388846, 33.752504 ], "pop" : 1845, "state" : "GA" }

{ "\_id" : "30306", "city" : "ATLANTA", "loc" : [ -84.351418, 33.786027 ], "pop" : 20081, "state" : "GA" }

{ "\_id" : "30305", "city" : "ATLANTA", "loc" : [ -84.385145, 33.831963 ], "pop" : 19122, "state" : "GA" }

{ "\_id" : "30307", "city" : "ATLANTA", "loc" : [ -84.335957, 33.769138 ], "pop" : 16330, "state" : "GA" }

{ "\_id" : "30309", "city" : "ATLANTA", "loc" : [ -84.388338, 33.798407 ], "pop" : 14766, "state" : "GA" }

{ "\_id" : "30308", "city" : "ATLANTA", "loc" : [ -84.375744, 33.771839 ], "pop" : 8549, "state" : "GA" }

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

{ "\_id" : "30312", "city" : "ATLANTA", "loc" : [ -84.378125, 33.746749 ], "pop" : 17683, "state" : "GA" }

{ "\_id" : "30311", "city" : "ATLANTA", "loc" : [ -84.470219, 33.722957 ], "pop" : 34880, "state" : "GA" }

{ "\_id" : "30314", "city" : "ATLANTA", "loc" : [ -84.425546, 33.756103 ], "pop" : 26649, "state" : "GA" }

{ "\_id" : "30313", "city" : "ATLANTA", "loc" : [ -84.39352, 33.76825 ], "pop" : 8038, "state" : "GA" }

{ "\_id" : "30315", "city" : "ATLANTA", "loc" : [ -84.380771, 33.705062 ], "pop" : 41061, "state" : "GA" }

{ "\_id" : "30317", "city" : "ATLANTA", "loc" : [ -84.31685, 33.749788 ], "pop" : 16395, "state" : "GA" }

{ "\_id" : "30316", "city" : "ATLANTA", "loc" : [ -84.333913, 33.721686 ], "pop" : 34668, "state" : "GA" }

{ "\_id" : "30319", "city" : "ATLANTA", "loc" : [ -84.335091, 33.868728 ], "pop" : 32138, "state" : "GA" }

{ "\_id" : "30318", "city" : "ATLANTA", "loc" : [ -84.445432, 33.786454 ], "pop" : 53894, "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" : "30331", "city" : "ATLANTA", "loc" : [ -84.520468, 33.72241 ], "pop" : 38185, "state" : "GA" }

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

{ "\_id" : "30303", "city" : "ATLANTA", "loc" : [ -84.388846, 33.752504 ], "pop" : 1845, "state" : "GA" }

{ "\_id" : "30306", "city" : "ATLANTA", "loc" : [ -84.351418, 33.786027 ], "pop" : 20081, "state" : "GA" }

{ "\_id" : "30305", "city" : "ATLANTA", "loc" : [ -84.385145, 33.831963 ], "pop" : 19122, "state" : "GA" }

{ "\_id" : "30307", "city" : "ATLANTA", "loc" : [ -84.335957, 33.769138 ], "pop" : 16330, "state" : "GA" }

{ "\_id" : "30309", "city" : "ATLANTA", "loc" : [ -84.388338, 33.798407 ], "pop" : 14766, "state" : "GA" }

{ "\_id" : "30308", "city" : "ATLANTA", "loc" : [ -84.375744, 33.771839 ], "pop" : 8549, "state" : "GA" }

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

{ "\_id" : "30312", "city" : "ATLANTA", "loc" : [ -84.378125, 33.746749 ], "pop" : 17683, "state" : "GA" }

{ "\_id" : "30311", "city" : "ATLANTA", "loc" : [ -84.470219, 33.722957 ], "pop" : 34880, "state" : "GA" }

{ "\_id" : "30314", "city" : "ATLANTA", "loc" : [ -84.425546, 33.756103 ], "pop" : 26649, "state" : "GA" }

{ "\_id" : "30313", "city" : "ATLANTA", "loc" : [ -84.39352, 33.76825 ], "pop" : 8038, "state" : "GA" }

{ "\_id" : "30315", "city" : "ATLANTA", "loc" : [ -84.380771, 33.705062 ], "pop" : 41061, "state" : "GA" }

{ "\_id" : "30317", "city" : "ATLANTA", "loc" : [ -84.31685, 33.749788 ], "pop" : 16395, "state" : "GA" }

{ "\_id" : "30316", "city" : "ATLANTA", "loc" : [ -84.333913, 33.721686 ], "pop" : 34668, "state" : "GA" }

{ "\_id" : "30319", "city" : "ATLANTA", "loc" : [ -84.335091, 33.868728 ], "pop" : 32138, "state" : "GA" }

{ "\_id" : "30318", "city" : "ATLANTA", "loc" : [ -84.445432, 33.786454 ], "pop" : 53894, "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" : "30331", "city" : "ATLANTA", "loc" : [ -84.520468, 33.72241 ], "pop" : 38185, "state" : "GA" }

> db.zipcodes.aggregate([{$match: {"city": "ATLANTA"}}, {$group: {\_id: "$city", zipcodesCount: {$sum: 1}}}])

{ "\_id" : "ATLANTA", "zipcodesCount" : 41 }

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

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

**Populations by State**

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

{ "\_id" : "ID", "totalPop" : 1006749 }

{ "\_id" : "VT", "totalPop" : 562758 }

{ "\_id" : "MN", "totalPop" : 4372982 }

{ "\_id" : "NH", "totalPop" : 1109252 }

{ "\_id" : "PA", "totalPop" : 11881643 }

{ "\_id" : "SD", "totalPop" : 695397 }

{ "\_id" : "OK", "totalPop" : 3145585 }

{ "\_id" : "AZ", "totalPop" : 3665228 }

{ "\_id" : "NC", "totalPop" : 6628637 }

{ "\_id" : "AR", "totalPop" : 2350725 }

{ "\_id" : "NV", "totalPop" : 1201833 }

{ "\_id" : "CA", "totalPop" : 29754890 }

{ "\_id" : "OR", "totalPop" : 2842321 }

{ "\_id" : "NM", "totalPop" : 1515069 }

{ "\_id" : "LA", "totalPop" : 4217595 }

{ "\_id" : "FL", "totalPop" : 12686644 }

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

{ "\_id" : "WA", "totalPop" : 4866692 }

{ "\_id" : "MI", "totalPop" : 9295297 }

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

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

{ "\_id" : "CA", "totalPop" : 29754890 }

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

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

{ "\_id" : "FL", "totalPop" : 12686644 }

{ "\_id" : "PA", "totalPop" : 11881643 }

{ "\_id" : "IL", "totalPop" : 11427576 }

{ "\_id" : "OH", "totalPop" : 10846517 }

{ "\_id" : "MI", "totalPop" : 9295297 }

{ "\_id" : "NJ", "totalPop" : 7730188 }

{ "\_id" : "NC", "totalPop" : 6628637 }

{ "\_id" : "GA", "totalPop" : 6478216 }

{ "\_id" : "VA", "totalPop" : 6181479 }

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

{ "\_id" : "IN", "totalPop" : 5544136 }

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

{ "\_id" : "WI", "totalPop" : 4891769 }

{ "\_id" : "TN", "totalPop" : 4876457 }

{ "\_id" : "WA", "totalPop" : 4866692 }

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

{ "\_id" : "MN", "totalPop" : 4372982 }

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

{ "\_id" : "CA", "totalPop" : 29754890 }

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

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

**Populations by City**

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

{ "\_id" : { "city" : "CHINQUAPIN", "state" : "NC" }, "totalCPop" : 1334 }

{ "\_id" : { "city" : "DAKOTA", "state" : "MN" }, "totalCPop" : 725 }

{ "\_id" : { "city" : "BARTONVILLE", "state" : "IL" }, "totalCPop" : 10389 }

{ "\_id" : { "city" : "LOGAN", "state" : "KS" }, "totalCPop" : 751 }

{ "\_id" : { "city" : "ROBINSON CREEK", "state" : "KY" }, "totalCPop" : 6715 }

{ "\_id" : { "city" : "SUTERSVILLE", "state" : "PA" }, "totalCPop" : 1467 }

{ "\_id" : { "city" : "HARPSTER", "state" : "OH" }, "totalCPop" : 719 }

{ "\_id" : { "city" : "WOODVILLE", "state" : "MS" }, "totalCPop" : 6400 }

{ "\_id" : { "city" : "WOLF LAKE", "state" : "IL" }, "totalCPop" : 533 }

{ "\_id" : { "city" : "STUDLEY", "state" : "KS" }, "totalCPop" : 314 }

{ "\_id" : { "city" : "HIGGINSON", "state" : "AR" }, "totalCPop" : 786 }

{ "\_id" : { "city" : "DECATURVILLE", "state" : "TN" }, "totalCPop" : 2806 }

{ "\_id" : { "city" : "WESLEY", "state" : "AR" }, "totalCPop" : 1307 }

{ "\_id" : { "city" : "EDMOND", "state" : "OK" }, "totalCPop" : 66616 }

{ "\_id" : { "city" : "BONE GAP", "state" : "IL" }, "totalCPop" : 496 }

{ "\_id" : { "city" : "ASHLAND", "state" : "OH" }, "totalCPop" : 27072 }

{ "\_id" : { "city" : "MOUNT CALM", "state" : "TX" }, "totalCPop" : 612 }

{ "\_id" : { "city" : "NAVASOTA", "state" : "TX" }, "totalCPop" : 12634 }

{ "\_id" : { "city" : "WHITTIER", "state" : "CA" }, "totalCPop" : 142478 }

{ "\_id" : { "city" : "NORTH FREEDOM", "state" : "WI" }, "totalCPop" : 1858 }

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Bonus**

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

{ "\_id" : { "city" : "DELTA", "state" : "PA" }, "avgCPop" : 4910 }

{ "\_id" : { "city" : "SLINGERLANDS", "state" : "NY" }, "avgCPop" : 5431 }

{ "\_id" : { "city" : "GRAVELLY", "state" : "AR" }, "avgCPop" : 150 }

{ "\_id" : { "city" : "TRIBUNE", "state" : "KS" }, "avgCPop" : 1774 }

{ "\_id" : { "city" : "HARDY", "state" : "KY" }, "avgCPop" : 1693 }

{ "\_id" : { "city" : "REMSEN", "state" : "IA" }, "avgCPop" : 2254 }

{ "\_id" : { "city" : "ORANGE COVE", "state" : "CA" }, "avgCPop" : 6374 }

{ "\_id" : { "city" : "EASTMAN", "state" : "GA" }, "avgCPop" : 11744 }

{ "\_id" : { "city" : "EDWALL", "state" : "WA" }, "avgCPop" : 379 }

{ "\_id" : { "city" : "SOD", "state" : "WV" }, "avgCPop" : 3529 }

{ "\_id" : { "city" : "ARVONIA", "state" : "VA" }, "avgCPop" : 1114 }

{ "\_id" : { "city" : "HARTSBURG", "state" : "IL" }, "avgCPop" : 602 }

{ "\_id" : { "city" : "SYLACAUGA", "state" : "AL" }, "avgCPop" : 24424 }

{ "\_id" : { "city" : "POWELLS POINT", "state" : "NC" }, "avgCPop" : 959 }

{ "\_id" : { "city" : "SOUTH SALT LAKE", "state" : "UT" }, "avgCPop" : 21776 }

{ "\_id" : { "city" : "KINGSTON", "state" : "WI" }, "avgCPop" : 346 }

{ "\_id" : { "city" : "BRIMSON", "state" : "MN" }, "avgCPop" : 176 }

{ "\_id" : { "city" : "HEMAN", "state" : "IL" }, "avgCPop" : 1780 }

{ "\_id" : { "city" : "RILEYVILLE", "state" : "VA" }, "avgCPop" : 997 }

{ "\_id" : { "city" : "LAKE GENEVA", "state" : "WI" }, "avgCPop" : 11183 }

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

{ "\_id" : { "state" : "DC" }, "avgCPop" : 25287.5 }

{ "\_id" : { "state" : "CA" }, "avgCPop" : 19627.236147757256 }

{ "\_id" : { "state" : "FL" }, "avgCPop" : 15779.407960199005 }

{ "\_id" : { "state" : "RI" }, "avgCPop" : 14539.391304347826 }

{ "\_id" : { "state" : "NJ" }, "avgCPop" : 14315.162962962962 }

{ "\_id" : { "state" : "HI" }, "avgCPop" : 13852.8625 }

{ "\_id" : { "state" : "AZ" }, "avgCPop" : 13574.918518518518 }

{ "\_id" : { "state" : "MA" }, "avgCPop" : 12692.879746835442 }

{ "\_id" : { "state" : "DE" }, "avgCPop" : 12569.207547169812 }

{ "\_id" : { "state" : "CT" }, "avgCPop" : 12498.539923954373 }

{ "\_id" : { "state" : "NV" }, "avgCPop" : 11556.086538461539 }

{ "\_id" : { "state" : "MD" }, "avgCPop" : 11384.235714285714 }

{ "\_id" : { "state" : "NY" }, "avgCPop" : 11279.248902821317 }

{ "\_id" : { "state" : "OH" }, "avgCPop" : 10771.119165839125 }

{ "\_id" : { "state" : "MI" }, "avgCPop" : 10611.069634703197 }

{ "\_id" : { "state" : "GA" }, "avgCPop" : 10201.914960629922 }

{ "\_id" : { "state" : "TX" }, "avgCPop" : 10164.333333333334 }

{ "\_id" : { "state" : "WA" }, "avgCPop" : 10055.148760330578 }

{ "\_id" : { "state" : "SC" }, "avgCPop" : 9962.00857142857 }

{ "\_id" : { "state" : "NC" }, "avgCPop" : 9402.321985815603 }