**ASSIGNMENT-2 – MongoDB**

C:\Program Files\MongoDB\Tools\100\bin>mongoimport --db population --collection zipcodes --file "C:\Users\Admin\Downloads\restaurants.json"

2021-08-04T08:53:34.232+0530 connected to: mongodb://localhost/

2021-08-04T08:53:34.449+0530 3772 document(s) imported successfully. 0 document(s) failed to import.

**ATLANTA POPULATION :**

Q.1

show dbs

admin 0.000GB

config 0.000GB

local 0.000GB

mongo\_practice 0.000GB

population 0.005GB

> use population

switched to db population

> show collections

zipcodes

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

{

"\_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" : "30307",

"city" : "ATLANTA",

"loc" : [

-84.335957,

33.769138

],

"pop" : 16330,

"state" : "GA"

}

{

"\_id" : "30305",

"city" : "ATLANTA",

"loc" : [

-84.385145,

33.831963

],

"pop" : 19122,

"state" : "GA"

}

{

"\_id" : "30310",

"city" : "ATLANTA",

"loc" : [

-84.423173,

33.727849

],

"pop" : 34017,

"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" : "30311",

"city" : "ATLANTA",

"loc" : [

-84.470219,

33.722957

],

"pop" : 34880,

"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" : "30318",

"city" : "ATLANTA",

"loc" : [

-84.445432,

33.786454

],

"pop" : 53894,

"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" : "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"

}

{

"\_id" : "30330",

"city" : "ATLANTA",

"loc" : [

-84.434735,

33.70645

],

"pop" : 643,

"state" : "GA"

}

{

"\_id" : "30334",

"city" : "ATLANTA",

"loc" : [

-84.388188,

33.74715

],

"pop" : 0,

"state" : "GA"

}

Type "it" for more

>

Q.2

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

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

{ "\_id" : "30310", "city" : "ATLANTA", "loc" : [ -84.423173, 33.727849 ], "pop" : 34017, "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" : "30311", "city" : "ATLANTA", "loc" : [ -84.470219, 33.722957 ], "pop" : 34880, "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" : "30318", "city" : "ATLANTA", "loc" : [ -84.445432, 33.786454 ], "pop" : 53894, "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" : "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" }

{ "\_id" : "30330", "city" : "ATLANTA", "loc" : [ -84.434735, 33.70645 ], "pop" : 643, "state" : "GA" }

{ "\_id" : "30334", "city" : "ATLANTA", "loc" : [ -84.388188, 33.74715 ], "pop" : 0, "state" : "GA" }

Type "it" for more

Q.3

> db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$count:"Total number of zipcodes"}])

{ "Total number of zipcodes" : 41 }

Q.4

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

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

**POPULATION BY STATE:**

Q.1.

> db.zipcodes.aggregate({$group:{\_id:'$state',population:{$sum:'$pop'}}})

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Type "it" for more

Q.2

db.zipcodes.aggregate({$group:{\_id:{state:'$state'},population:{$sum:'$pop'}}},{$sort:{population:-1}})

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Type "it" for more

Q.3.

> db.zipcodes.aggregate({$group:{\_id:{state:'$state'},population:{$sum:'$pop'}}},{$sort:{population:-1}},{$limit:3})

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

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

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

**POPULATION BY CITY:**

Q.1. db.zipcodes.aggregate({$group:{\_id:{city:'$city',state:'$state'},population:{$sum:'$pop'}}})

{ "\_id" : { "city" : "RICHWOODS", "state" : "MO" }, "population" : 1079 }

{ "\_id" : { "city" : "QUANTICO", "state" : "MD" }, "population" : 1029 }

{ "\_id" : { "city" : "DALEVILLE", "state" : "MS" }, "population" : 549 }

{ "\_id" : { "city" : "CORWITH", "state" : "IA" }, "population" : 737 }

{ "\_id" : { "city" : "PELICAN RAPIDS", "state" : "MN" }, "population" : 4481 }

{ "\_id" : { "city" : "HARRISVILLE", "state" : "NH" }, "population" : 981 }

{ "\_id" : { "city" : "LANGDON", "state" : "ND" }, "population" : 3701 }

{ "\_id" : { "city" : "LELAND", "state" : "IL" }, "population" : 1601 }

{ "\_id" : { "city" : "SARATOGA", "state" : "AR" }, "population" : 281 }

{ "\_id" : { "city" : "OLD FORT", "state" : "NC" }, "population" : 5594 }

{ "\_id" : { "city" : "BIG BEND NATIONA", "state" : "TX" }, "population" : 249 }

{ "\_id" : { "city" : "AUBERRY", "state" : "CA" }, "population" : 3179 }

{ "\_id" : { "city" : "HORN LAKE", "state" : "MS" }, "population" : 14436 }

{ "\_id" : { "city" : "WAGRAM", "state" : "NC" }, "population" : 3007 }

{ "\_id" : { "city" : "LOUISVILLE", "state" : "NE" }, "population" : 1998 }

{ "\_id" : { "city" : "WELLSVILLE", "state" : "KS" }, "population" : 2178 }

{ "\_id" : { "city" : "BLANDVILLE", "state" : "WV" }, "population" : 35 }

{ "\_id" : { "city" : "CACHE", "state" : "OK" }, "population" : 3857 }

{ "\_id" : { "city" : "GLENFIELD", "state" : "NY" }, "population" : 1909 }

{ "\_id" : { "city" : "CROWS LANDING", "state" : "CA" }, "population" : 1896 }

Q.2

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 }

Type "it" for more

Q.3.

db.zipcodes.aggregate({$group:{\_id:{city:'$city',state:'$state'},population:{$sum:'$pop'}}},{$sort:{population:-1}},{$limit:3})

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

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

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

Q.4.

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

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

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

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

**BONUS:**

Q.1. db.zipcodes.aggregate([{$group:{\_id:{state:'$state',city:'$city'},pop:{$sum:"$pop"}}},{$group:{\_id:"$\_id.state",avgCitypop:{$avg:'$pop'}}}])

{ "\_id" : "AZ", "avgCitypop" : 20591.16853932584 }

{ "\_id" : "LA", "avgCitypop" : 10465.496277915632 }

{ "\_id" : "OR", "avgCitypop" : 8262.561046511628 }

{ "\_id" : "NV", "avgCitypop" : 18209.590909090908 }

{ "\_id" : "OK", "avgCitypop" : 6155.743639921722 }

{ "\_id" : "NC", "avgCitypop" : 10622.815705128205 }

{ "\_id" : "MN", "avgCitypop" : 5372.21375921376 }

{ "\_id" : "SD", "avgCitypop" : 1839.6746031746031 }

{ "\_id" : "PA", "avgCitypop" : 8679.067202337472 }

{ "\_id" : "NM", "avgCitypop" : 5872.360465116279 }

{ "\_id" : "NH", "avgCitypop" : 5232.320754716981 }

{ "\_id" : "VA", "avgCitypop" : 8526.177931034483 }

{ "\_id" : "MT", "avgCitypop" : 2593.987012987013 }

{ "\_id" : "TN", "avgCitypop" : 9656.350495049504 }

{ "\_id" : "FL", "avgCitypop" : 27400.958963282937 }

{ "\_id" : "OH", "avgCitypop" : 12700.839578454332 }

{ "\_id" : "KS", "avgCitypop" : 3819.884259259259 }

{ "\_id" : "AK", "avgCitypop" : 2976.4918032786886 }

{ "\_id" : "IN", "avgCitypop" : 9271.130434782608 }

{ "\_id" : "GA", "avgCitypop" : 11547.62210338681 }

Q.2

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

{ "\_id" : "DC", "avgCitypop" : 303450 }

{ "\_id" : "FA", "avgCitypop" : 27756.42723880597 }

{ "\_id" : "FL", "avgCitypop" : 27400.958963282937 }