

Assignment - 2

Inserting Database

```
C:\Windows\System32\cmd.exe
C:\Program Files\MongoDB\Server\5.0\bin>mongoimport --db population --collection zipcodes --file C:\data\db\zip.json

2021-07-31T11:48:58.854+0530   connected to: mongodb://localhost/
2021-07-31T11:49:02.045+0530   [.....] population.zipcodes 109KB/3.03MB (3.5%)
2021-07-31T11:49:04.858+0530   [#####.....] population.zipcodes 1.15MB/3.03MB (37.9%)
2021-07-31T11:49:07.412+0530   [#####] population.zipcodes 3.03MB/3.03MB (100.0%)
2021-07-31T11:49:07.414+0530   29353 document(s) imported successfully. 0 document(s) failed to import.

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

```
C:\Windows\System32\cmd.exe - mongo
To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()

---
> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
population 0.000GB
>
```

Queries Used

ATLANTA POPULATION

1. `db.zipcodes.find({city:"ATLANTA"}, {state:"GA"}).pretty();`
2. `db.zipcodes.aggregate([{$match : {city:"ATLANTA", state : "GA"}}])`
3. `db.zipcodes.aggregate([{$match : {city : "ATLANTA"}}, {$group : {_id : {id:"$_id"}}, {$count:"id"}}])`
4. `db.zipcodes.aggregate([{$match : {city : "ATLANTA"}}, {$group : {_id : {city : "ATLANTA"}, total:{$sum:"$pop"}}}])`

```
C:\Windows\System32\cmd.exe - mongo
> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
population 0.000GB
> use population
switched to db population
> db.zipcodes.find({city:"ATLANTA"}, {state:"GA"}).pretty();
{ "_id" : "14808", "state" : "GA" }
{ "_id" : "30303", "state" : "GA" }
{ "_id" : "30305", "state" : "GA" }
{ "_id" : "30306", "state" : "GA" }
{ "_id" : "30307", "state" : "GA" }
{ "_id" : "30309", "state" : "GA" }
{ "_id" : "30308", "state" : "GA" }
{ "_id" : "30310", "state" : "GA" }
{ "_id" : "30311", "state" : "GA" }
{ "_id" : "30313", "state" : "GA" }
{ "_id" : "30314", "state" : "GA" }
{ "_id" : "30315", "state" : "GA" }
{ "_id" : "30316", "state" : "GA" }
{ "_id" : "30312", "state" : "GA" }
{ "_id" : "30317", "state" : "GA" }
{ "_id" : "30318", "state" : "GA" }
{ "_id" : "30327", "state" : "GA" }
{ "_id" : "30329", "state" : "GA" }
{ "_id" : "30324", "state" : "GA" }
{ "_id" : "30326", "state" : "GA" }
Type "it" for more
```

C:\Windows\System32\cmd.exe - mongo

```
> 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" }
{ "_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" : "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" : "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" : "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" : "30312", "city" : "ATLANTA", "loc" : [ -84.378125, 33.746749 ], "pop" : 17683, "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" : "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" : "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" : "30319", "city" : "ATLANTA", "loc" : [ -84.335091, 33.868728 ], "pop" : 32138, "state" : "GA" }
Type "it" for more
```

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([
... {$match : {city : "ATLANTA"}},
... {$group : {_id : {$id : "$_id"}}},
... {$count : "id"}])
{ "_id" : 41 }
> db.zipcodes.aggregate([
... {$match : {city : "ATLANTA"}},
... {$group : {_id : {city : "ATLANTA"}, total : {$sum : "$pop"}}}])
{ "_id" : { "city" : "ATLANTA" }, "total" : 630046 }
```

POPULATIONS BY STATE

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

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```
> db.zipcodes.aggregate([
... {$group : {_id : {state : "$state"}, total : {$sum : "$pop"}}}])
{ "_id" : { "state" : "AK" }, "total" : 544698 }
{ "_id" : { "state" : "RI" }, "total" : 1003218 }
{ "_id" : { "state" : "LA" }, "total" : 4217595 }
{ "_id" : { "state" : "NM" }, "total" : 1515069 }
{ "_id" : { "state" : "MD" }, "total" : 4781379 }
{ "_id" : { "state" : "NC" }, "total" : 6628637 }
{ "_id" : { "state" : "NY" }, "total" : 17990402 }
{ "_id" : { "state" : "CT" }, "total" : 3287116 }
{ "_id" : { "state" : "PA" }, "total" : 11881643 }
{ "_id" : { "state" : "VA" }, "total" : 6181479 }
{ "_id" : { "state" : "WV" }, "total" : 1793146 }
{ "_id" : { "state" : "NE" }, "total" : 1578139 }
{ "_id" : { "state" : "OR" }, "total" : 2842321 }
{ "_id" : { "state" : "KY" }, "total" : 3675484 }
{ "_id" : { "state" : "MA" }, "total" : 6016425 }
{ "_id" : { "state" : "SC" }, "total" : 3486703 }
{ "_id" : { "state" : "TN" }, "total" : 4876457 }
{ "_id" : { "state" : "DC" }, "total" : 606900 }
{ "_id" : { "state" : "OH" }, "total" : 10846517 }
{ "_id" : { "state" : "MI" }, "total" : 9295297 }
Type "it" for more
> it
```

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([
... {$group :{_id :{$state : "$state"}, total:{$sum:"$pop"}}}, {$sort:{total:-1}}])
{ "_id" : { "state" : "CA" }, "total" : 29754890 }
{ "_id" : { "state" : "NY" }, "total" : 17990402 }
{ "_id" : { "state" : "TX" }, "total" : 16984601 }
{ "_id" : { "state" : "FL" }, "total" : 12686644 }
{ "_id" : { "state" : "PA" }, "total" : 11881643 }
{ "_id" : { "state" : "IL" }, "total" : 11427576 }
{ "_id" : { "state" : "OH" }, "total" : 10846517 }
{ "_id" : { "state" : "MI" }, "total" : 9295297 }
{ "_id" : { "state" : "NJ" }, "total" : 7730188 }
{ "_id" : { "state" : "NC" }, "total" : 6628637 }
{ "_id" : { "state" : "GA" }, "total" : 6478216 }
{ "_id" : { "state" : "VA" }, "total" : 6181479 }
{ "_id" : { "state" : "MA" }, "total" : 6016425 }
{ "_id" : { "state" : "IN" }, "total" : 5544136 }
{ "_id" : { "state" : "MO" }, "total" : 5110648 }
{ "_id" : { "state" : "WI" }, "total" : 4891769 }
{ "_id" : { "state" : "TN" }, "total" : 4876457 }
{ "_id" : { "state" : "WA" }, "total" : 4866692 }
{ "_id" : { "state" : "MD" }, "total" : 4781379 }
{ "_id" : { "state" : "MN" }, "total" : 4372982 }
Type "it" for more
```

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([
... {$group :{_id :{$state : "$state"}, total:{$sum:"$pop"}}}, {$sort:{total:-1}}, {$limit:3}])
{ "_id" : { "state" : "CA" }, "total" : 29754890 }
{ "_id" : { "state" : "NY" }, "total" : 17990402 }
{ "_id" : { "state" : "TX" }, "total" : 16984601 }
```

POPULATION BY CITY

1. `db.zipcodes.aggregate([{$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}}})`
2. `db.zipcodes.aggregate([{$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}},
{$sort:{total:-1}}])`
3. `db.zipcodes.aggregate([{$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}},
{$sort:{total:-1}}, {$limit:3}])`
4. `db.zipcodes.aggregate([{$group :{_id :{$city : "$city", state:"TX"}, total:{$sum:"$pop"}},
{$sort:{total:-1}}, {$limit:3}])`

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([
... {$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}}})
{ "_id" : { "city" : "OLLA", "state" : "LA" }, "total" : 3448 }
{ "_id" : { "city" : "TIMBO", "state" : "AR" }, "total" : 596 }
{ "_id" : { "city" : "HOYT", "state" : "CO" }, "total" : 1746 }
{ "_id" : { "city" : "MIDWAY CITY", "state" : "CA" }, "total" : 6224 }
{ "_id" : { "city" : "ALFRED", "state" : "NY" }, "total" : 4559 }
{ "_id" : { "city" : "BESSEMER", "state" : "AL" }, "total" : 40549 }
{ "_id" : { "city" : "MARYVILLE", "state" : "MO" }, "total" : 13687 }
{ "_id" : { "city" : "LANE", "state" : "KS" }, "total" : 582 }
{ "_id" : { "city" : "CHIPPEWA FALLS", "state" : "WI" }, "total" : 25627 }
{ "_id" : { "city" : "SPENCERTOWN", "state" : "NY" }, "total" : 127 }
{ "_id" : { "city" : "MADISON", "state" : "SD" }, "total" : 7745 }
{ "_id" : { "city" : "TOWNSEND", "state" : "WI" }, "total" : 729 }
{ "_id" : { "city" : "BELMONT", "state" : "LA" }, "total" : 616 }
{ "_id" : { "city" : "CENTER BARNSTEAD", "state" : "NH" }, "total" : 2307 }
{ "_id" : { "city" : "CALAIS", "state" : "VT" }, "total" : 319 }
{ "_id" : { "city" : "COURTLAND", "state" : "MN" }, "total" : 1122 }
{ "_id" : { "city" : "UPPER ARLINGTON", "state" : "OH" }, "total" : 21283 }
{ "_id" : { "city" : "DACONO", "state" : "CO" }, "total" : 2223 }
{ "_id" : { "city" : "SWANSBORO", "state" : "NC" }, "total" : 2535 }
{ "_id" : { "city" : "BUCKINGHAM", "state" : "IL" }, "total" : 557 }
Type "it" for more
it
```

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([
  .. {$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}}}, {$sort:{total:-1}}])
{ "_id" : { "city" : "CHICAGO", "state" : "IL" }, "total" : 2452177 }
{ "_id" : { "city" : "BROOKLYN", "state" : "NY" }, "total" : 2300504 }
{ "_id" : { "city" : "LOS ANGELES", "state" : "CA" }, "total" : 2102295 }
{ "_id" : { "city" : "HOUSTON", "state" : "TX" }, "total" : 2095918 }
{ "_id" : { "city" : "PHILADELPHIA", "state" : "PA" }, "total" : 1610956 }
{ "_id" : { "city" : "NEW YORK", "state" : "NY" }, "total" : 1476790 }
{ "_id" : { "city" : "BRONX", "state" : "NY" }, "total" : 1209548 }
{ "_id" : { "city" : "SAN DIEGO", "state" : "CA" }, "total" : 1049298 }
{ "_id" : { "city" : "DETROIT", "state" : "MI" }, "total" : 963243 }
{ "_id" : { "city" : "DALLAS", "state" : "TX" }, "total" : 940191 }
{ "_id" : { "city" : "PHOENIX", "state" : "AZ" }, "total" : 890853 }
{ "_id" : { "city" : "MIAMI", "state" : "FL" }, "total" : 825232 }
{ "_id" : { "city" : "SAN JOSE", "state" : "CA" }, "total" : 816653 }
{ "_id" : { "city" : "SAN ANTONIO", "state" : "TX" }, "total" : 811792 }
{ "_id" : { "city" : "BALTIMORE", "state" : "MD" }, "total" : 733081 }
{ "_id" : { "city" : "SAN FRANCISCO", "state" : "CA" }, "total" : 723993 }
{ "_id" : { "city" : "MEMPHIS", "state" : "TN" }, "total" : 632837 }
{ "_id" : { "city" : "SACRAMENTO", "state" : "CA" }, "total" : 628279 }
{ "_id" : { "city" : "JACKSONVILLE", "state" : "FL" }, "total" : 610160 }
{ "_id" : { "city" : "ATLANTA", "state" : "GA" }, "total" : 609591 }
Type "it" for more
++
```

C:\Windows\System32\cmd.exe - mongo

```
> db.zipcodes.aggregate([ {$group :{_id :{$city : "$city", state:"$state"}, total:{$sum:"$pop"}}}, {$sort:{total:-1}}, {$limit:3}])
{ "_id" : { "city" : "CHICAGO", "state" : "IL" }, "total" : 2452177 }
{ "_id" : { "city" : "BROOKLYN", "state" : "NY" }, "total" : 2300504 }
{ "_id" : { "city" : "LOS ANGELES", "state" : "CA" }, "total" : 2102295 }
> db.zipcodes.aggregate([ {$group :{_id :{$city : "$city", state:"TX"}, total:{$sum:"$pop"}}}, {$sort:{total:-1}}, {$limit:3}])
{ "_id" : { "city" : "CHICAGO", "state" : "TX" }, "total" : 2452177 }
{ "_id" : { "city" : "BROOKLYN", "state" : "TX" }, "total" : 2341387 }
{ "_id" : { "city" : "HOUSTON", "state" : "TX" }, "total" : 2123053 }
>
```

