**MongoDB –Aggregation Exercise**

**Atlanta Populationa**

**1.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> 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.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$match:{city:"ATLANTA", state:"GA"}}])

**3.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group:{\_id:"$city"}}, {$count:"ATLANTA"}])

{ "ATLANTA" : 16584 }

**4.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$match:{city:"ATLANTA"}},{$group: {\_id:"$city", totalPop:{$sum:"$pop"}}}])

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

**Population by State**

**1.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:"$state", totalPop:{$sum:"$pop"}}}])

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

{ "\_id" : "ME", "totalPop" : 1226648 }

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

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

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

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

Type "it" for more

**2.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> 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 }

Type "it" for more

**3.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> 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 }

**Population by city**

1.

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:{city:"$city",state:"$state"}, totalPop:{$sum:"$pop"}}}])

{ "\_id" : { "city" : "GOODYEARS BAR", "state" : "CA" }, "totalPop" : 377 }

{ "\_id" : { "city" : "BEULAH", "state" : "ND" }, "totalPop" : 4363 }

{ "\_id" : { "city" : "EASTFORD", "state" : "CT" }, "totalPop" : 76 }

{ "\_id" : { "city" : "DELPHOS", "state" : "KS" }, "totalPop" : 639 }

{ "\_id" : { "city" : "MESA", "state" : "AZ" }, "totalPop" : 316356 }

{ "\_id" : { "city" : "BATH SPRINGS", "state" : "TN" }, "totalPop" : 920 }

Type "it" for more

**2.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:{city:"$city",state:"$state"}, totalPop:{$sum:"$pop"}}},{$sort:{totalPop:-1}}])

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

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

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

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

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

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

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

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

**3.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:{city:"$city",state:"$state"}, totalPop:{$sum:"$pop"}}},{$sort:{totalPop:-1}},{$sort:{totalPop:-1}},{$limit:3}])

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

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

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

**4.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:{city:"$city",state:"$TX"}, totalPop:{$sum:"$pop"}}},{$sort:{totalPop:-1}},{$limit:3}])

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

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

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

**Bonus**

**1.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> db.zipcodes.aggregate([{$group: {\_id:"$city", totalPop:{$avg:"$pop"}}}])

{ "\_id" : "QUICKSAND", "totalPop" : 727 }

{ "\_id" : "BARLOW", "totalPop" : 1335 }

{ "\_id" : "WEEMS", "totalPop" : 2125 }

{ "\_id" : "MONTGOMERY CREEK", "totalPop" : 823 }

{ "\_id" : "WEAVERVILLE", "totalPop" : 7536 }

{ "\_id" : "GALIEN", "totalPop" : 2775 }

{ "\_id" : "ARMOUR", "totalPop" : 1118 }

**2.**

MongoDB Enterprise atlas-biqdul-shard-0:PRIMARY> 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 }