MongoDB – Aggregation Exercises

Atlanta Population

1. Use db.zipcodes.find() to filter results to only the results where city is ATLANTA and state is GA.
   Query - db.zipcodes.find({ $and : [{city:"ATLANTA"},{state:"GA"}]})
2. Use $match and the aggregate function for the same query as question number 1.
   Query - db.zipcodes.aggregate({$match: { $and : [{city:"ATLANTA"},{state:"GA"}]}})
3. Use $group to count the number of zip codes in Atlanta.
   Query - db.zipcodes.aggregate([{$group:{_id:"$city",
   count:{$sum:1}}},{$match:{_id:"ATLANTA"}}])
4. Use $group to find the total population in Atlanta
   Query - db.zipcodes.aggregate([{$group:{_id:"$city",
   count:{$sum:"$pop"}}},{$match:{_id:"ATLANTA"}}])

Population By State

1. Use Aggregate to calculate the total population for each state
   Query - db.zipcodes.aggregate([{$group:{_id:"$city", count:{$sum:"$pop"}}}])
2. Sort the results by population, highest first
   Query - db.zipcodes.aggregate([{$group:{_id:"$city", count:{$sum:"$pop"}}},{$sort:{count:-1}}])
3. Limit the results to just the first 3 results. What are the top three states in population
   Query: db.zipcodes.aggregate([{$group:{_id:"$city", count:{$sum:"$pop"}}},{$sort:{count:-1}},{$limit:3}])

Population By City:

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

Bonus:

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