2nd Assignment:

Atlanta Population:

1.

>db.zipcodes.find({city:{$regex:/ATLANTA/},state:{$regex:/GA/}})

2.

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

3.

> db.zipcodes.aggregate( {$group: {\_id:'ATLANTA', zips:{$sum:1}}} )

4.

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

Populations by State:

1.

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

2.

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

3.

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

Populations by City:

1.

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

2.

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

3.

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

4.

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

Bonus:

1.

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

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}])