DAY 2:

Atlanta population:

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

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

db.zipcodes.aggregate([ { $match:{city:"ATLANTA"}},{$count:"zipcodes in Atlanta"}])

db.zipcodes.aggregate([ { $match:{ $or:[{city:"ATLANTA"},{state:"MA"}]}},{$count:"zipcodes of Atlanta or state MA"}])

db.zipcodes.aggregate([ {$match: {city: "ATLANTA"}},{ $group:{ \_id: "$city", totpop: {$sum: "$pop"}}}])

Population states:

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

db.zipcodes.aggregate([{$group: {\_id: "$state", totpop: {$sum: "$pop"}}},{$sort: {totpop: -1}}])

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

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

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

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

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

Bonus:

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

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