

MongoDB Assignment 2

Mongoimport –db population –collection zipcodes –file zip.json

Atlanta Population

1) > db.zipcodes.aggregate({\$match:{city:"ATLANTA",state:"GA"}})

```
{ "_id" : "14808", "state" : "GA" }
```

```
{ "_id" : "30303", "state" : "GA" }
```

```
{ "_id" : "30305", "state" : "GA" }
```

```
{ "_id" : "30306", "state" : "GA" }
```

```
{ "_id" : "30307", "state" : "GA" }
```

```
{ "_id" : "30310", "state" : "GA" }
```

2) > 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" : "30310", "city" : "ATLANTA", "loc" : [ -84.423173, 33.727849 ], "pop" : 34017, "state" : "GA" }
```

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

```
{ "_id" : "ATLANTA", "zips" : 41 }
```

4) >db.zipcodes.aggregate({\$match:{city:"ATLANTA"}},{ \$group:{_id:'\$city',Population:{\$sum:'\$pop'}}})

```
{ "_id" : "ATLANTA", "Population" : 630046 }
```

Populations by State

```
1) > db.zipcodes.aggregate({$group:{_id:'$state',Population:{$sum:'$pop'}}})
```

```
{ "_id" : "UT", "Population" : 1722850 }
```

```
{ "_id" : "MA", "Population" : 6016425 }
```

```
{ "_id" : "TN", "Population" : 4876457 }
```

```
{ "_id" : "DC", "Population" : 606900 }
```

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

```
{ "_id" : { "state" : "CA" }, "population" : 29754890 }
```

```
{ "_id" : { "state" : "NY" }, "population" : 17990402 }
```

```
{ "_id" : { "state" : "TX" }, "population" : 16984601 }
```

```
{ "_id" : { "state" : "FL" }, "population" : 12686644 }
```

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

```
{ "_id" : { "state" : "CA" }, "population" : 29754890 }
```

```
{ "_id" : { "state" : "NY" }, "population" : 17990402 }
```

```
{ "_id" : { "state" : "TX" }, "population" : 16984601 }
```

Populations by City

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

```
{ "_id" : { "city" : "BEAVER CROSSING", "state" : "NE" }, "population" : 827 }
```

```
{ "_id" : { "city" : "GLENHAVEN", "state" : "CA" }, "population" : 94 }
```

```
{ "_id" : { "city" : "CHESTERTOWN", "state" : "MD" }, "population" : 10618 }
```

```
{ "_id" : { "city" : "BANDERA", "state" : "TX" }, "population" : 5538 }
```

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

```
{ "_id" : { "city" : "CHICAGO", "state" : "IL" }, "population" : 2452177 }
```

```
{ "_id" : { "city" : "BROOKLYN", "state" : "NY" }, "population" : 2300504 }
```

```
{ "_id" : { "city" : "LOS ANGELES", "state" : "CA" }, "population" : 2102295 }
```

```
{ "_id" : { "city" : "HOUSTON", "state" : "TX" }, "population" : 2095918 }
```

```
{ "_id" : { "city" : "PHILADELPHIA", "state" : "PA" }, "population" : 1610956 }
```

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

```
{ "_id" : { "city" : "CHICAGO" }, "population" : 2452177 }
```

```
{ "_id" : { "city" : "BROOKLYN" }, "population" : 2341387 }
```

```
{ "_id" : { "city" : "HOUSTON" }, "population" : 2123053 }
```

```
{ "_id" : { "city" : "LOS ANGELES" }, "population" : 2102295 }
```

```
4) >db.zipcodes.aggregate({$group:{_id:{city:"$city"},population:{$sum:'$pop'}}},{sort:{population:-1}},{$limit:3})
```

```
{ "_id" : { "city" : "CHICAGO" }, "population" : 2452177 }
```

```
{ "_id" : { "city" : "BROOKLYN" }, "population" : 2341387 }
```

```
{ "_id" : { "city" : "HOUSTON" }, "population" : 2123053 }
```

BONUS

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

{ "_id" : "TX", "avgCityPop" : 13775.02108678021 }
{ "_id" : "MS", "avgCityPop" : 7524.023391812865 }
```

```
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}} )
```

```
{ "_id" : "DC", "avgCityPop" : 303450 }
```

```
{ "_id" : "CA", "avgCityPop" : 27756.42723880597 }
```

```
{ "_id" : "FL", "avgCityPop" : 27400.958963282937 }
```