**> db.zipcode.find();**

**> db.createCollection("zipcode");**

**{ "ok" : 1 }**

**> db.zipcode.insert({city:"Nashik",state:"MH",pop:10000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Nagpur",state:"MH",pop:20000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Mumbai",state:"MH",pop:80000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Banglore",state:"KA",pop:10000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Belgaon",state:"KA",pop:1000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Indore",state:"MP",pop:20000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.insert({city:"Bhopal",state:"MP",pop:15000});**

**WriteResult({ "nInserted" : 1 })**

**> db.zipcode.find();**

**{ "\_id" : ObjectId("59f2215ecc762d9a20cdf6a3"), "city" : "Nashik", "state" : "MH**

**", "pop" : 10000 }**

**{ "\_id" : ObjectId("59f22172cc762d9a20cdf6a4"), "city" : "Nagpur", "state" : "MH**

**", "pop" : 20000 }**

**{ "\_id" : ObjectId("59f2217ecc762d9a20cdf6a5"), "city" : "Mumbai", "state" : "MH**

**", "pop" : 80000 }**

**{ "\_id" : ObjectId("59f2218fcc762d9a20cdf6a6"), "city" : "Banglore", "state" : "**

**KA", "pop" : 10000 }**

**{ "\_id" : ObjectId("59f2219dcc762d9a20cdf6a7"), "city" : "Belgaon", "state" : "K**

**A", "pop" : 1000 }**

**{ "\_id" : ObjectId("59f221adcc762d9a20cdf6a8"), "city" : "Indore", "state" : "MP**

**", "pop" : 20000 }**

**{ "\_id" : ObjectId("59f221c0cc762d9a20cdf6a9"), "city" : "Bhopal", "state" : "MP**

**", "pop" : 15000 }**

**> db.zipcode.aggregate([{$group:{\_id:"$state",totalPop:{$sum:"$pop"}}},{$match:{**

**totalPop:{$gte:10000}}}]);**

**{ "\_id" : "MP", "totalPop" : 35000 }**

**{ "\_id" : "KA", "totalPop" : 11000 }**

**{ "\_id" : "MH", "totalPop" : 110000 }**

**The following aggregation operation returns the average populations for cities in each state:**

> db.zipcode.aggregate( [{$group:{\_id:{state:"$state",city:"$city"},pop:{$sum:"$

pop"}}},{$group:{\_id:"$\_id.state",avgCityPop:{$avg:"$pop"}}}]);

{ "\_id" : "MH", "avgCityPop" : 36666.666666666664 }

{ "\_id" : "KA", "avgCityPop" : 5500 }

{ "\_id" : "MP", "avgCityPop" : 17500 }

**smallest and largest cities by population for each state**

> db.zipcode.aggregate( [

... { $group:

... {

... \_id: { state: "$state", city: "$city" },

... pop: { $sum: "$pop" }

... }

... },

... { $sort: { pop: 1 } },

... { $group:

... {

... \_id : "$\_id.state",

... biggestCity: { $last: "$\_id.city" },

... biggestPop: { $last: "$pop" },

... smallestCity: { $first: "$\_id.city" },

... smallestPop: { $first: "$pop" }

... }

... }]);

{ "\_id" : "MP", "biggestCity" : "Indore", "biggestPop" : 20000, "smallestCity" :

"Bhopal", "smallestPop" : 15000 }

{ "\_id" : "MH", "biggestCity" : "Mumbai", "biggestPop" : 80000, "smallestCity" :

"Nashik", "smallestPop" : 10000 }

{ "\_id" : "KA", "biggestCity" : "Banglore", "biggestPop" : 10000, "smallestCity"

: "Belgaon", "smallestPop" : 1000 }

**Indexing**

**> db.zipcode.createIndex({city:1,state:1});**

**{**

**"createdCollectionAutomatically" : false,**

**"numIndexesBefore" : 1,**

**"numIndexesAfter" : 2,**

**"ok" : 1**

**}**

**> db.zipcode.getIndexes();**

**[**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "test.zipcode"**

**},**

**{**

**"v" : 1,**

**"key" : {**

**"city" : 1,**

**"state" : 1**

**},**

**"name" : "city\_1\_state\_1",**

**"ns" : "test.zipcode"**

**}**

**]**

**> db.zipcode.getIndexes();**

**[**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "test.zipcode"**

**},**

**{**

**"v" : 1,**

**"key" : {**

**"city" : 1,**

**"state" : 1**

**},**

**"name" : "city\_1\_state\_1",**

**"ns" : "test.zipcode"**

**}**

**]**

**> db.zipcode.dropIndexes();**

**{**

**"nIndexesWas" : 2,**

**"msg" : "non-\_id indexes dropped for collection",**

**"ok" : 1**

**}**

**> db.zipcode.getIndexes();**

**[**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "test.zipcode"**

**}**

**]**

**>**