Microsoft Windows [Version 10.0.19043.1348]

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C:\Users\HP>mongo

MongoDB shell version v5.0.4

connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb

Implicit session: session { "id" : UUID("55365a6e-1507-484a-ad0e-cb50e0f7ee34") }

MongoDB server version: 5.0.4

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Warning: the "mongo" shell has been superseded by "mongosh",

which delivers improved usability and compatibility.The "mongo" shell has been deprecated and will be removed in

an upcoming release.

For installation instructions, see

https://docs.mongodb.com/mongodb-shell/install/

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The server generated these startup warnings when booting:

    2021-11-25T12:53:04.202+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted

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    Enable MongoDB's free cloud-based monitoring service, which will then receive and display

    metrics about your deployment (disk utilization, CPU, operation statistics, etc).

    The monitoring data will be available on a MongoDB website with a unique URL accessible to you

    and anyone you share the URL with. MongoDB may use this information to make product

    improvements and to suggest MongoDB products and deployment options to you.

    To enable free monitoring, run the following command: db.enableFreeMonitoring()

    To permanently disable this reminder, run the following command: db.disableFreeMonitoring()

1.Create a database with different cities

```
> show dbs
admin   0.000GB
config  0.000GB
local   0.000GB
> use cities
switched to db cities
> db.cities.insert([{ "_id" : "01001", "city" : "AGAWAM", "loc" : [ -72.622739, 42.070206 ],
"pop" : 15338, "state" : "MA" }])
BulkWriteResult({

     "writeErrors" : [ ],

     "writeConcernErrors" : [ ],

     "nInserted" : 1,

     "nUpserted" : 0,

     "nMatched" : 0,

     "nModified" : 0,

     "nRemoved" : 0,

     "upserted" : [ ]

})
> db.cities.insert([{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [ -72.51564999999999,
42.377017 ], "pop" : 36963, "state" : "MA" },

... { "_id" : "01005", "city" : "BARRE", "loc" : [ -72.10835400000001, 42.409698 ], "pop" :
4546, "state" : "MA" },

... { "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [ -72.41095300000001, 42.275103 ],
"pop" : 10579, "state" : "MA" },

... { "_id" : "01008", "city" : "BLANDFORD", "loc" : [ -72.936114, 42.182949 ], "pop" : 1240,
"state" : "MA" }])
BulkWriteResult({

     "writeErrors" : [ ],

     "writeConcernErrors" : [ ],

     "nInserted" : 4,

     "nUpserted" : 0,
```

```
        "nMatched" : 0,

        "nModified" : 0,

        "nRemoved" : 0,

        "upserted" : [ ]

})
```

> **db.cities.insert([{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : 2472, "state" : "RI" },**

... **{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 15849, "state" : "RI" },**

... **{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : 836, "state" : "RI" },**

... **{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : 2184, "state" : "RI" },**

... **{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.26755799999999, 41.68247], "pop" : 21625, "state" : "RI" },**

... **{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : 1011, "state" : "RI" }])**

```
BulkWriteResult({

        "writeErrors" : [ ],

        "writeConcernErrors" : [ ],

        "nInserted" : 6,

        "nUpserted" : 0,

        "nMatched" : 0,

        "nModified" : 0,

        "nRemoved" : 0,

        "upserted" : [ ]

})
```

> **db.cities.insert([{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 8998, "state" : "NH" },**

... **{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 4085, "state" : "NH" },**

... { "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 2410, "state" : "NH" },

... { "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 3557, "state" : "NH" },

... { "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 2691, "state" : "NH" },

... { "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.25126400000001, 43.137756], "pop" : 3124, "state" : "NH" }])

BulkWriteResult({

    "writeErrors" : [ ],

    "writeConcernErrors" : [ ],

    "nInserted" : 6,

    "nUpserted" : 0,

    "nMatched" : 0,

    "nModified" : 0,

    "nRemoved" : 0,

    "upserted" : [ ]

})

> db.cities.insert([{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.85503799999999, 43.28992], "pop" : 5942, "state" : "ME" },

... { "_id" : "03902", "city" : "CAPE NEDDICK", "loc" : [-70.639685, 43.213318], "pop" : 953, "state" : "ME" },

... { "_id" : "03903", "city" : "ELIOT", "loc" : [-70.78221600000001, 43.130943], "pop" : 6506, "state" : "ME" },

... { "_id" : "03904", "city" : "KITTERY", "loc" : [-70.742876, 43.092128], "pop" : 3537, "state" : "ME" },

... { "_id" : "03905", "city" : "KITTERY POINT", "loc" : [-70.712108, 43.097571], "pop" : 4589, "state" : "ME" },

... { "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [-70.72117299999999, 43.325401], "pop" : 6465, "state" : "ME" },

... { "_id" : "03907", "city" : "OGUNQUIT", "loc" : [-70.597176, 43.228457], "pop" : 852, "state" : "ME" }])

BulkWriteResult({

```
        "writeErrors" : [ ],

        "writeConcernErrors" : [ ],

        "nInserted" : 7,

        "nUpserted" : 0,

        "nMatched" : 0,

        "nModified" : 0,

        "nRemoved" : 0,

        "upserted" : [ ]

})
```

> db.cities.insert([

... { "_id" : "05036", "city" : "BROOKFIELD", "loc" : [-72.595259, 44.032083], "pop" : 453, "state" : "VT" },

... { "_id" : "05037", "city" : "BROWNSVILLE", "loc" : [-72.494405, 43.464584], "pop" : 415, "state" : "VT" },

... { "_id" : "05038", "city" : "CHELSEA", "loc" : [-72.479303, 44.003931], "pop" : 1022, "state" : "VT" },

... { "_id" : "05039", "city" : "CORINTH", "loc" : [-72.282241, 44.032533], "pop" : 1035, "state" : "VT" },

... { "_id" : "05040", "city" : "EAST CORINTH", "loc" : [-72.215144, 44.061851], "pop" : 279, "state" : "VT" },

... { "_id" : "05041", "city" : "EAST RANDOLPH", "loc" : [-72.54874599999999, 43.955297], "pop" : 322, "state" : "VT" },

... { "_id" : "05042", "city" : "RYEGATE", "loc" : [-72.072669, 44.193453], "pop" : 328, "state" : "VT" }])

```
BulkWriteResult({

        "writeErrors" : [ ],

        "writeConcernErrors" : [ ],

        "nInserted" : 7,

        "nUpserted" : 0,

        "nMatched" : 0,

        "nModified" : 0,

        "nRemoved" : 0,
```

"upserted" : [ ]

})

> **db.cities.insert([{ "_id" : "06001", "city" : "AVON", "loc" : [-72.865323, 41.790498], "pop" : 13988, "state" : "CT" },**

... **{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [-72.72493, 41.831647], "pop" : 19524, "state" : "CT" },**

... **{ "_id" : "06010", "city" : "BRISTOL", "loc" : [-72.930193, 41.682293], "pop" : 60670, "state" : "CT" },**

... **{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [-72.94438599999999, 41.757296], "pop" : 7017, "state" : "CT" },**

... **{ "_id" : "06016", "city" : "WINDSORVILLE", "loc" : [-72.543667, 41.911405], "pop" : 5067, "state" : "CT" },**

... **{ "_id" : "06018", "city" : "CANAAN", "loc" : [-73.323177, 42.024821], "pop" : 2948, "state" : "CT" },**

... **{ "_id" : "06019", "city" : "CANTON", "loc" : [-72.898731, 41.838401], "pop" : 4125, "state" : "CT" },**

... **{ "_id" : "06020", "city" : "CANTON CENTER", "loc" : [-72.90584699999999, 41.871586], "pop" : 192, "state" : "CT" }])**

BulkWriteResult({

        "writeErrors" : [ ],

        "writeConcernErrors" : [ ],

        "nInserted" : 8,

        "nUpserted" : 0,

        "nMatched" : 0,

        "nModified" : 0,

        "nRemoved" : 0,

        "upserted" : [ ]

})

> **db.cities.insert([{ "_id" : "07001", "city" : "AVENEL", "loc" : [-74.278522, 40.582568], "pop" : 14953, "state" : "NJ" },**

... **{ "_id" : "07002", "city" : "BAYONNE", "loc" : [-74.119169, 40.666399], "pop" : 61444, "state" : "NJ" },**

... { "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.18907400000001, 40.803456], "pop" : 46131, "state" : "NJ" },

... { "_id" : "07004", "city" : "FAIRFIELD", "loc" : [-74.296027, 40.882178], "pop" : 7567, "state" : "NJ" },

... { "_id" : "07005", "city" : "BOONTON", "loc" : [-74.414035, 40.911528], "pop" : 13961, "state" : "NJ" },

... { "_id" : "07006", "city" : "WEST CALDWELL", "loc" : [-74.276771, 40.849059], "pop" : 24946, "state" : "NJ" },

... { "_id" : "07008", "city" : "CARTERET", "loc" : [-74.231345, 40.582278], "pop" : 19025, "state" : "NJ" },

... { "_id" : "07009", "city" : "CEDAR GROVE", "loc" : [-74.22967199999999, 40.85344], "pop" : 11787, "state" : "NJ" }])

BulkWriteResult({

    "writeErrors" : [ ],

    "writeConcernErrors" : [ ],

    "nInserted" : 8,

    "nUpserted" : 0,

    "nMatched" : 0,

    "nModified" : 0,

    "nRemoved" : 0,

    "upserted" : [ ]

})

> db.cities.insert([{ "_id" : "10001", "city" : "NEW YORK", "loc" : [-73.99670500000001, 40.74838], "pop" : 18913, "state" : "NY" },

... { "_id" : "10002", "city" : "NEW YORK", "loc" : [-73.98768099999999, 40.715231], "pop" : 84143, "state" : "NY" },

... { "_id" : "10003", "city" : "NEW YORK", "loc" : [-73.989223, 40.731253], "pop" : 51224, "state" : "NY" },

... { "_id" : "10004", "city" : "GOVERNORS ISLAND", "loc" : [-74.019025, 40.693604], "pop" : 3593, "state" : "NY" },

... { "_id" : "10005", "city" : "NEW YORK", "loc" : [-74.00834399999999, 40.705649], "pop" : 202, "state" : "NY" },

... { "_id" : "10006", "city" : "NEW YORK", "loc" : [-74.013474, 40.708451], "pop" : 119, "state" : "NY" },

... { "_id" : "10007", "city" : "NEW YORK", "loc" : [-74.00702200000001, 40.713905], "pop" : 3374, "state" : "NY" },

... { "_id" : "10009", "city" : "NEW YORK", "loc" : [-73.979591, 40.726188], "pop" : 57426, "state" : "NY" },

... { "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" },

... { "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }])

```
BulkWriteResult({

	"writeErrors" : [ ],

	"writeConcernErrors" : [ ],

	"nInserted" : 10,

	"nUpserted" : 0,

	"nMatched" : 0,

	"nModified" : 0,

	"nRemoved" : 0,

	"upserted" : [ ]

})
```

2.Display all the data

> db.cities.find()

{ "_id" : "01001", "city" : "AGAWAM", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : 2472, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 15849, "state" : "RI" }

{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : 836, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : 2184, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 21625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : 1011, "state" : "RI" }

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 8998, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 4085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 2410, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 3557, "state" : "NH" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 2691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 3124, "state" : "NH" }

{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.855038, 43.28992], "pop" : 5942, "state" : "ME" }

{ "_id" : "03902", "city" : "CAPE NEDDICK", "loc" : [-70.639685, 43.213318], "pop" : 953, "state" : "ME" }

{ "_id" : "03903", "city" : "ELIOT", "loc" : [-70.782216, 43.130943], "pop" : 6506, "state" : "ME" }

Type "it" for more

> it

{ "_id" : "03904", "city" : "KITTERY", "loc" : [-70.742876, 43.092128], "pop" : 3537, "state" : "ME" }

```
{ "_id" : "03905", "city" : "KITTERY POINT", "loc" : [ -70.712108, 43.097571 ], "pop" : 4589, "state" : "ME" }

{ "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [ -70.721173, 43.325401 ], "pop" : 6465, "state" : "ME" }

{ "_id" : "03907", "city" : "OGUNQUIT", "loc" : [ -70.597176, 43.228457 ], "pop" : 852, "state" : "ME" }

{ "_id" : "05036", "city" : "BROOKFIELD", "loc" : [ -72.595259, 44.032083 ], "pop" : 453, "state" : "VT" }

{ "_id" : "05037", "city" : "BROWNSVILLE", "loc" : [ -72.494405, 43.464584 ], "pop" : 415, "state" : "VT" }

{ "_id" : "05038", "city" : "CHELSEA", "loc" : [ -72.479303, 44.003931 ], "pop" : 1022, "state" : "VT" }

{ "_id" : "05039", "city" : "CORINTH", "loc" : [ -72.282241, 44.032533 ], "pop" : 1035, "state" : "VT" }

{ "_id" : "05040", "city" : "EAST CORINTH", "loc" : [ -72.215144, 44.061851 ], "pop" : 279, "state" : "VT" }

{ "_id" : "05041", "city" : "EAST RANDOLPH", "loc" : [ -72.548746, 43.955297 ], "pop" : 322, "state" : "VT" }

{ "_id" : "05042", "city" : "RYEGATE", "loc" : [ -72.072669, 44.193453 ], "pop" : 328, "state" : "VT" }

{ "_id" : "06001", "city" : "AVON", "loc" : [ -72.865323, 41.790498 ], "pop" : 13988, "state" : "CT" }

{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [ -72.72493, 41.831647 ], "pop" : 19524, "state" : "CT" }

{ "_id" : "06010", "city" : "BRISTOL", "loc" : [ -72.930193, 41.682293 ], "pop" : 60670, "state" : "CT" }

{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [ -72.944386, 41.757296 ], "pop" : 7017, "state" : "CT" }

{ "_id" : "06016", "city" : "WINDSORVILLE", "loc" : [ -72.543667, 41.911405 ], "pop" : 5067, "state" : "CT" }

{ "_id" : "06018", "city" : "CANAAN", "loc" : [ -73.323177, 42.024821 ], "pop" : 2948, "state" : "CT" }

{ "_id" : "06019", "city" : "CANTON", "loc" : [ -72.898731, 41.838401 ], "pop" : 4125, "state" : "CT" }
```

{ "_id" : "06020", "city" : "CANTON CENTER", "loc" : [-72.905847, 41.871586], "pop" : 192, "state" : "CT" }

{ "_id" : "07001", "city" : "AVENEL", "loc" : [-74.278522, 40.582568], "pop" : 14953, "state" : "NJ" }

Type "it" for more

> it

{ "_id" : "07002", "city" : "BAYONNE", "loc" : [-74.119169, 40.666399], "pop" : 61444, "state" : "NJ" }

{ "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.189074, 40.803456], "pop" : 46131, "state" : "NJ" }

{ "_id" : "07004", "city" : "FAIRFIELD", "loc" : [-74.296027, 40.882178], "pop" : 7567, "state" : "NJ" }

{ "_id" : "07005", "city" : "BOONTON", "loc" : [-74.414035, 40.911528], "pop" : 13961, "state" : "NJ" }

{ "_id" : "07006", "city" : "WEST CALDWELL", "loc" : [-74.276771, 40.849059], "pop" : 24946, "state" : "NJ" }

{ "_id" : "07008", "city" : "CARTERET", "loc" : [-74.231345, 40.582278], "pop" : 19025, "state" : "NJ" }

{ "_id" : "07009", "city" : "CEDAR GROVE", "loc" : [-74.229672, 40.85344], "pop" : 11787, "state" : "NJ" }

{ "_id" : "10001", "city" : "NEW YORK", "loc" : [-73.996705, 40.74838], "pop" : 18913, "state" : "NY" }

{ "_id" : "10002", "city" : "NEW YORK", "loc" : [-73.987681, 40.715231], "pop" : 84143, "state" : "NY" }

{ "_id" : "10003", "city" : "NEW YORK", "loc" : [-73.989223, 40.731253], "pop" : 51224, "state" : "NY" }

{ "_id" : "10004", "city" : "GOVERNORS ISLAND", "loc" : [-74.019025, 40.693604], "pop" : 3593, "state" : "NY" }

{ "_id" : "10005", "city" : "NEW YORK", "loc" : [-74.008344, 40.705649], "pop" : 202, "state" : "NY" }

{ "_id" : "10006", "city" : "NEW YORK", "loc" : [-74.013474, 40.708451], "pop" : 119, "state" : "NY" }

{ "_id" : "10007", "city" : "NEW YORK", "loc" : [-74.007022, 40.713905], "pop" : 3374, "state" : "NY" }

{ "_id" : "10009", "city" : "NEW YORK", "loc" : [-73.979591, 40.726188], "pop" : 57426, "state" : "NY" }

{ "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" }

{ "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }

3.Update the database of any one city

> db.cities.find({state:"MA"})

{ "_id" : "01001", "city" : "AGAWAM", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

> db.cities.updateOne({city:"AGAWAM"}, {$set:{city:"PUNE"}})

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

> db.cities.find({state:"MA"})

{ "_id" : "01001", "city" : "PUNE", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

4.Increase the population of each city in NH by 5000

> db.cities.find({state:"NH"})

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 8998, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 4085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 2410, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 3557, "state" : "NH" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 2691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 3124, "state" : "NH" }

> db.cities.update({ state: "NH" },{ $inc: { pop: 5000 } }, { multi: true })

WriteResult({ "nMatched" : 6, "nUpserted" : 0, "nModified" : 6 })

> db.cities.find({state:"NH"})

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 13998, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 9085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 7410, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 8557, "state" : "NH" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 7691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 8124, "state" : "NH" }

5.Decrease the population of each city in RI by 10000

> db.cities.find({state:"RI"})

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : 2472, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 15849, "state" : "RI" }

{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : 836, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : 2184, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 21625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : 1011, "state" : "RI" }

> db.cities.update({state:"RI"}, { $inc: {pop:-10000 } }, { multi:true })

WriteResult({ "nMatched" : 6, "nUpserted" : 0, "nModified" : 6 })

> db.cities.find({state:"RI"})

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : -7528, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : -9164, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : -7816, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : -8989, "state" : "RI" }

5.Delete the document of "BLOCK ISLAND" in the state of RI

> db.cities.find({state:"RI"})

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : -7528, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : -9164, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : -7816, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : -8989, "state" : "RI" }

> db.cities.remove({city:"BLOCK ISLAND"});

WriteResult({ "nRemoved" : 1 })

> db.cities.find({state:"RI"})

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : -7528, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : -7816, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : -8989, "state" : "RI" }

6.Display all cities with population more than 4000

> db.cities.find({ pop: { $gt:4000 } })

{ "_id" : "01001", "city" : "AGAWAM", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 13998, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 9085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 7410, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 8557, "state" : "NH" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 7691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 8124, "state" : "NH" }

{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.855038, 43.28992], "pop" : 5942, "state" : "ME" }

{ "_id" : "03903", "city" : "ELIOT", "loc" : [-70.782216, 43.130943], "pop" : 6506, "state" : "ME" }

{ "_id" : "03905", "city" : "KITTERY POINT", "loc" : [-70.712108, 43.097571], "pop" : 4589, "state" : "ME" }

{ "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [-70.721173, 43.325401], "pop" : 6465, "state" : "ME" }

{ "_id" : "06001", "city" : "AVON", "loc" : [-72.865323, 41.790498], "pop" : 13988, "state" : "CT" }

{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [-72.72493, 41.831647], "pop" : 19524, "state" : "CT" }

{ "_id" : "06010", "city" : "BRISTOL", "loc" : [-72.930193, 41.682293], "pop" : 60670, "state" : "CT" }

{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [-72.944386, 41.757296], "pop" : 7017, "state" : "CT" }

Type "it" for more

> it

{ "_id" : "06016", "city" : "WINDSORVILLE", "loc" : [-72.543667, 41.911405], "pop" : 5067, "state" : "CT" }

{ "_id" : "06019", "city" : "CANTON", "loc" : [-72.898731, 41.838401], "pop" : 4125, "state" : "CT" }

{ "_id" : "07001", "city" : "AVENEL", "loc" : [-74.278522, 40.582568], "pop" : 14953, "state" : "NJ" }

{ "_id" : "07002", "city" : "BAYONNE", "loc" : [-74.119169, 40.666399], "pop" : 61444, "state" : "NJ" }

{ "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.189074, 40.803456], "pop" : 46131, "state" : "NJ" }

{ "_id" : "07004", "city" : "FAIRFIELD", "loc" : [-74.296027, 40.882178], "pop" : 7567, "state" : "NJ" }

{ "_id" : "07005", "city" : "BOONTON", "loc" : [-74.414035, 40.911528], "pop" : 13961, "state" : "NJ" }

{ "_id" : "07006", "city" : "WEST CALDWELL", "loc" : [-74.276771, 40.849059], "pop" : 24946, "state" : "NJ" }

{ "_id" : "07008", "city" : "CARTERET", "loc" : [-74.231345, 40.582278], "pop" : 19025, "state" : "NJ" }

{ "_id" : "07009", "city" : "CEDAR GROVE", "loc" : [-74.229672, 40.85344], "pop" : 11787, "state" : "NJ" }

{ "_id" : "10001", "city" : "NEW YORK", "loc" : [-73.996705, 40.74838], "pop" : 18913, "state" : "NY" }

{ "_id" : "10002", "city" : "NEW YORK", "loc" : [-73.987681, 40.715231], "pop" : 84143, "state" : "NY" }

{ "_id" : "10003", "city" : "NEW YORK", "loc" : [-73.989223, 40.731253], "pop" : 51224, "state" : "NY" }

{ "_id" : "10009", "city" : "NEW YORK", "loc" : [-73.979591, 40.726188], "pop" : 57426, "state" : "NY" }

{ "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" }

{ "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }

7.Display all cities in MA with population greater than 20000

> db.cities.find({state:"MA",pop:{ $gt:20000 }})

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

8.Display all cities where name starts with B

> db.cities.find({city: /B/ })

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : -7816, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 9085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 7410, "state" : "NH" }

{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.855038, 43.28992], "pop" : 5942, "state" : "ME" }

{ "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [-70.721173, 43.325401], "pop" : 6465, "state" : "ME" }

{ "_id" : "05036", "city" : "BROOKFIELD", "loc" : [-72.595259, 44.032083], "pop" : 453, "state" : "VT" }

{ "_id" : "05037", "city" : "BROWNSVILLE", "loc" : [-72.494405, 43.464584], "pop" : 415, "state" : "VT" }

{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [-72.72493, 41.831647], "pop" : 19524, "state" : "CT" }

{ "_id" : "06010", "city" : "BRISTOL", "loc" : [-72.930193, 41.682293], "pop" : 60670, "state" : "CT" }

{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [-72.944386, 41.757296], "pop" : 7017, "state" : "CT" }

{ "_id" : "07002", "city" : "BAYONNE", "loc" : [-74.119169, 40.666399], "pop" : 61444, "state" : "NJ" }

{ "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.189074, 40.803456], "pop" : 46131, "state" : "NJ" }

{ "_id" : "07005", "city" : "BOONTON", "loc" : [-74.414035, 40.911528], "pop" : 13961, "state" : "NJ" }

9.Display the unique city names

> db.cities.distinct("city")

[

"AGAWAM",

"AMHERST",

"ASHAWAY",

"AUBURN",

"AVENEL",

"AVON",

"BARRE",

"BARRINGTON",

"BAYONNE",

"BELCHERTOWN",

"BERWICK",

"BLANDFORD",

"BLOOMFIELD",

"BOONTON",

"BRADFORD",

"BRISTOL",

"BROOKFIELD",

"BROOKLINE",

"BROWNSVILLE",

"BURLINGTON",

"CANAAN",

"CANDIA",

"CANTON",

"CANTON CENTER",

"CAPE NEDDICK",

"CARTERET",

"CEDAR GROVE",

"CHELSEA",

"CHESTER",

"CORINTH",

"CUSHMAN",

"DEERFIELD",

"EAST CORINTH",

"EAST RANDOLPH",

"ELIOT",

"FAIRFIELD",

"GOVERNORS ISLAND",

"KITTERY",

"KITTERY POINT",

"NEW YORK",

"NORTH BERWICK",

"OGUNQUIT",

"RICHMOND",

"RYEGATE",

"WEST CALDWELL",

"WINDSORVILLE"

]

10.Display the total number of cities in the collection

> db.cities.count()

56

> db.cities.find().count()

56

11.Display all the cities in ascending order of populations

> db.cities.find().sort({pop: 1 })

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : -8989, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : -7816, "state" : "RI" }

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : -7528, "state" : "RI" }

{ "_id" : "10006", "city" : "NEW YORK", "loc" : [-74.013474, 40.708451], "pop" : 119, "state" : "NY" }

{ "_id" : "06020", "city" : "CANTON CENTER", "loc" : [-72.905847, 41.871586], "pop" : 192, "state" : "CT" }

{ "_id" : "10005", "city" : "NEW YORK", "loc" : [-74.008344, 40.705649], "pop" : 202, "state" : "NY" }

{ "_id" : "05040", "city" : "EAST CORINTH", "loc" : [-72.215144, 44.061851], "pop" : 279, "state" : "VT" }

{ "_id" : "05041", "city" : "EAST RANDOLPH", "loc" : [-72.548746, 43.955297], "pop" : 322, "state" : "VT" }

{ "_id" : "05042", "city" : "RYEGATE", "loc" : [-72.072669, 44.193453], "pop" : 328, "state" : "VT" }

{ "_id" : "05037", "city" : "BROWNSVILLE", "loc" : [-72.494405, 43.464584], "pop" : 415, "state" : "VT" }

{ "_id" : "05036", "city" : "BROOKFIELD", "loc" : [-72.595259, 44.032083], "pop" : 453, "state" : "VT" }

{ "_id" : "03907", "city" : "OGUNQUIT", "loc" : [-70.597176, 43.228457], "pop" : 852, "state" : "ME" }

{ "_id" : "03902", "city" : "CAPE NEDDICK", "loc" : [-70.639685, 43.213318], "pop" : 953, "state" : "ME" }

{ "_id" : "05038", "city" : "CHELSEA", "loc" : [-72.479303, 44.003931], "pop" : 1022, "state" : "VT" }

{ "_id" : "05039", "city" : "CORINTH", "loc" : [-72.282241, 44.032533], "pop" : 1035, "state" : "VT" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

{ "_id" : "06018", "city" : "CANAAN", "loc" : [-73.323177, 42.024821], "pop" : 2948, "state" : "CT" }

{ "_id" : "10007", "city" : "NEW YORK", "loc" : [-74.007022, 40.713905], "pop" : 3374, "state" : "NY" }

{ "_id" : "03904", "city" : "KITTERY", "loc" : [-70.742876, 43.092128], "pop" : 3537, "state" : "ME" }

{ "_id" : "10004", "city" : "GOVERNORS ISLAND", "loc" : [-74.019025, 40.693604], "pop" : 3593, "state" : "NY" }

Type "it" for more

> it

{ "_id" : "06019", "city" : "CANTON", "loc" : [-72.898731, 41.838401], "pop" : 4125, "state" : "CT" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "03905", "city" : "KITTERY POINT", "loc" : [-70.712108, 43.097571], "pop" : 4589, "state" : "ME" }

{ "_id" : "06016", "city" : "WINDSORVILLE", "loc" : [-72.543667, 41.911405], "pop" : 5067, "state" : "CT" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 5849, "state" : "RI" }

{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.855038, 43.28992], "pop" : 5942, "state" : "ME" }

{ "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [-70.721173, 43.325401], "pop" : 6465, "state" : "ME" }

{ "_id" : "03903", "city" : "ELIOT", "loc" : [-70.782216, 43.130943], "pop" : 6506, "state" : "ME" }

{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [-72.944386, 41.757296], "pop" : 7017, "state" : "CT" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 7410, "state" : "NH" }

{ "_id" : "07004", "city" : "FAIRFIELD", "loc" : [-74.296027, 40.882178], "pop" : 7567, "state" : "NJ" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 7691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 8124, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 8557, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 9085, "state" : "NH" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 11625, "state" : "RI" }

{ "_id" : "07009", "city" : "CEDAR GROVE", "loc" : [-74.229672, 40.85344], "pop" : 11787, "state" : "NJ" }

{ "_id" : "07005", "city" : "BOONTON", "loc" : [-74.414035, 40.911528], "pop" : 13961, "state" : "NJ" }

{ "_id" : "06001", "city" : "AVON", "loc" : [-72.865323, 41.790498], "pop" : 13988, "state" : "CT" }

Type "it" for more

> it

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 13998, "state" : "NH" }

{ "_id" : "07001", "city" : "AVENEL", "loc" : [-74.278522, 40.582568], "pop" : 14953, "state" : "NJ" }

{ "_id" : "01001", "city" : "AGAWAM", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "10001", "city" : "NEW YORK", "loc" : [-73.996705, 40.74838], "pop" : 18913, "state" : "NY" }

{ "_id" : "07008", "city" : "CARTERET", "loc" : [-74.231345, 40.582278], "pop" : 19025, "state" : "NJ" }

{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [-72.72493, 41.831647], "pop" : 19524, "state" : "CT" }

{ "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" }

{ "_id" : "07006", "city" : "WEST CALDWELL", "loc" : [-74.276771, 40.849059], "pop" : 24946, "state" : "NJ" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.189074, 40.803456], "pop" : 46131, "state" : "NJ" }

{ "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }

{ "_id" : "10003", "city" : "NEW YORK", "loc" : [-73.989223, 40.731253], "pop" : 51224, "state" : "NY" }

{ "_id" : "10009", "city" : "NEW YORK", "loc" : [-73.979591, 40.726188], "pop" : 57426, "state" : "NY" }

{ "_id" : "06010", "city" : "BRISTOL", "loc" : [-72.930193, 41.682293], "pop" : 60670, "state" : "CT" }

{ "_id" : "07002", "city" : "BAYONNE", "loc" : [-74.119169, 40.666399], "pop" : 61444, "state" : "NJ" }

{ "_id" : "10002", "city" : "NEW YORK", "loc" : [-73.987681, 40.715231], "pop" : 84143, "state" : "NY" }

12.List all cities that lie between latitude -73 and 40

> db.cities.find({"loc": { $elemMatch:{ $gt: -73 , $lt: 40}}});

{ "_id" : "01001", "city" : "PUNE", "loc" : [-72.622739, 42.070206], "pop" : 15338, "state" : "MA" }

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "01005", "city" : "BARRE", "loc" : [-72.108354, 42.409698], "pop" : 4546, "state" : "MA" }

{ "_id" : "01007", "city" : "BELCHERTOWN", "loc" : [-72.410953, 42.275103], "pop" : 10579, "state" : "MA" }

{ "_id" : "01008", "city" : "BLANDFORD", "loc" : [-72.936114, 42.182949], "pop" : 1240, "state" : "MA" }

{ "_id" : "02804", "city" : "ASHAWAY", "loc" : [-71.783745, 41.423054], "pop" : 2472, "state" : "RI" }

{ "_id" : "02806", "city" : "BARRINGTON", "loc" : [-71.317497, 41.744334], "pop" : 15849, "state" : "RI" }

{ "_id" : "02807", "city" : "BLOCK ISLAND", "loc" : [-71.574825, 41.171546], "pop" : 836, "state" : "RI" }

{ "_id" : "02808", "city" : "BRADFORD", "loc" : [-71.746453, 41.411448], "pop" : 2184, "state" : "RI" }

{ "_id" : "02809", "city" : "BRISTOL", "loc" : [-71.267558, 41.68247], "pop" : 21625, "state" : "RI" }

{ "_id" : "02812", "city" : "RICHMOND", "loc" : [-71.650279, 41.46941], "pop" : 1011, "state" : "RI" }

{ "_id" : "03031", "city" : "AMHERST", "loc" : [-71.607536, 42.856944], "pop" : 13998, "state" : "NH" }

{ "_id" : "03032", "city" : "AUBURN", "loc" : [-71.344892, 42.992529], "pop" : 4085, "state" : "NH" }

{ "_id" : "03033", "city" : "BROOKLINE", "loc" : [-71.666254, 42.738442], "pop" : 2410, "state" : "NH" }

{ "_id" : "03034", "city" : "CANDIA", "loc" : [-71.304857, 43.058514], "pop" : 3557, "state" : "NH" }

{ "_id" : "03036", "city" : "CHESTER", "loc" : [-71.244962, 42.967756], "pop" : 2691, "state" : "NH" }

{ "_id" : "03037", "city" : "DEERFIELD", "loc" : [-71.251264, 43.137756], "pop" : 3124, "state" : "NH" }

{ "_id" : "03901", "city" : "BERWICK", "loc" : [-70.855038, 43.28992], "pop" : 5942, "state" : "ME" }

{ "_id" : "03902", "city" : "CAPE NEDDICK", "loc" : [-70.639685, 43.213318], "pop" : 953, "state" : "ME" }

{ "_id" : "03903", "city" : "ELIOT", "loc" : [-70.782216, 43.130943], "pop" : 6506, "state" : "ME" }

Type "it" for more

> it

{ "_id" : "03904", "city" : "KITTERY", "loc" : [-70.742876, 43.092128], "pop" : 3537, "state" : "ME" }

{ "_id" : "03905", "city" : "KITTERY POINT", "loc" : [-70.712108, 43.097571], "pop" : 4589, "state" : "ME" }

{ "_id" : "03906", "city" : "NORTH BERWICK", "loc" : [-70.721173, 43.325401], "pop" : 6465, "state" : "ME" }

{ "_id" : "03907", "city" : "OGUNQUIT", "loc" : [-70.597176, 43.228457], "pop" : 852, "state" : "ME" }

{ "_id" : "05036", "city" : "BROOKFIELD", "loc" : [-72.595259, 44.032083], "pop" : 453, "state" : "VT" }

{ "_id" : "05037", "city" : "BROWNSVILLE", "loc" : [-72.494405, 43.464584], "pop" : 415, "state" : "VT" }

{ "_id" : "05038", "city" : "CHELSEA", "loc" : [-72.479303, 44.003931], "pop" : 1022, "state" : "VT" }

{ "_id" : "05039", "city" : "CORINTH", "loc" : [-72.282241, 44.032533], "pop" : 1035, "state" : "VT" }

{ "_id" : "05040", "city" : "EAST CORINTH", "loc" : [-72.215144, 44.061851], "pop" : 279, "state" : "VT" }

{ "_id" : "05041", "city" : "EAST RANDOLPH", "loc" : [-72.548746, 43.955297], "pop" : 322, "state" : "VT" }

{ "_id" : "05042", "city" : "RYEGATE", "loc" : [-72.072669, 44.193453], "pop" : 328, "state" : "VT" }

{ "_id" : "06001", "city" : "AVON", "loc" : [-72.865323, 41.790498], "pop" : 13988, "state" : "CT" }

{ "_id" : "06002", "city" : "BLOOMFIELD", "loc" : [-72.72493, 41.831647], "pop" : 19524, "state" : "CT" }

{ "_id" : "06010", "city" : "BRISTOL", "loc" : [-72.930193, 41.682293], "pop" : 60670, "state" : "CT" }

{ "_id" : "06013", "city" : "BURLINGTON", "loc" : [-72.944386, 41.757296], "pop" : 7017, "state" : "CT" }

{ "_id" : "06016", "city" : "WINDSORVILLE", "loc" : [-72.543667, 41.911405], "pop" : 5067, "state" : "CT" }

{ "_id" : "06019", "city" : "CANTON", "loc" : [-72.898731, 41.838401], "pop" : 4125, "state" : "CT" }

{ "_id" : "06020", "city" : "CANTON CENTER", "loc" : [-72.905847, 41.871586], "pop" : 192, "state" : "CT" }

13.List all cities belonging to NY

> db.cities.find({ state:"NY" })

{ "_id" : "10001", "city" : "NEW YORK", "loc" : [-73.996705, 40.74838], "pop" : 18913, "state" : "NY" }

{ "_id" : "10002", "city" : "NEW YORK", "loc" : [-73.987681, 40.715231], "pop" : 84143, "state" : "NY" }

{ "_id" : "10003", "city" : "NEW YORK", "loc" : [-73.989223, 40.731253], "pop" : 51224, "state" : "NY" }

{ "_id" : "10004", "city" : "GOVERNORS ISLAND", "loc" : [-74.019025, 40.693604], "pop" : 3593, "state" : "NY" }

{ "_id" : "10005", "city" : "NEW YORK", "loc" : [-74.008344, 40.705649], "pop" : 202, "state" : "NY" }

{ "_id" : "10006", "city" : "NEW YORK", "loc" : [-74.013474, 40.708451], "pop" : 119, "state" : "NY" }

{ "_id" : "10007", "city" : "NEW YORK", "loc" : [-74.007022, 40.713905], "pop" : 3374, "state" : "NY" }

{ "_id" : "10009", "city" : "NEW YORK", "loc" : [-73.979591, 40.726188], "pop" : 57426, "state" : "NY" }

{ "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" }

{ "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }

14.List all cities with population between 20000 and 50000

> db.cities.find({ pop : { $gt : 20000, $lt : 50000}})

{ "_id" : "01002", "city" : "CUSHMAN", "loc" : [-72.51565, 42.377017], "pop" : 36963, "state" : "MA" }

{ "_id" : "07003", "city" : "BLOOMFIELD", "loc" : [-74.189074, 40.803456], "pop" : 46131, "state" : "NJ" }

{ "_id" : "07006", "city" : "WEST CALDWELL", "loc" : [-74.276771, 40.849059], "pop" : 24946, "state" : "NJ" }

{ "_id" : "10010", "city" : "NEW YORK", "loc" : [-73.981328, 40.737476], "pop" : 24907, "state" : "NY" }

{ "_id" : "10011", "city" : "NEW YORK", "loc" : [-73.99963, 40.740225], "pop" : 46560, "state" : "NY" }

15.Create index on cityname

```
> db.cities.createIndex( { city:1 } )
{
    "numIndexesBefore" : 2,
    "numIndexesAfter" : 3,
    "createdCollectionAutomatically" : false,
    "ok" : 1
}
```