

//Query 1

db.zips.distinct("state",{ "city":"BOSTON"})

["MA", "NY", "PA", "VA", "GA", "KY", "TX"]

//Query2 :

```
db.zips.aggregate([{$group:{_id:{state:"$state",city:"$city",z:"_id"},totalPop:{$sum:"$pop"},totalzipcodes:{$sum:1}}},{$group:{_id:{state:"$_id.state",city:"$_id.city",pop:"$totalPop"},count:{$sum:"$totalzipcodes"}}},{$sort:{count:-1}}])
```

```
{ "_id" : { "state" : "TX", "city" : "HOUSTON", "pop" : 2095918 }, "count" : 93 }
{ "_id" : { "state" : "CA", "city" : "LOS ANGELES", "pop" : 2102295 }, "count" : 56 }
{ "_id" : { "state" : "PA", "city" : "PHILADELPHIA", "pop" : 1610956 }, "count" : 48 }
{ "_id" : { "state" : "IL", "city" : "CHICAGO", "pop" : 2452177 }, "count" : 47 }
{ "_id" : { "state" : "TX", "city" : "SAN ANTONIO", "pop" : 811792 }, "count" : 45 }
{ "_id" : { "state" : "TX", "city" : "DALLAS", "pop" : 940191 }, "count" : 44 }
{ "_id" : { "state" : "MO", "city" : "KANSAS CITY", "pop" : 360182 }, "count" : 41 }
{ "_id" : { "state" : "TX", "city" : "AUSTIN", "pop" : 530049 }, "count" : 40 }
{ "_id" : { "state" : "NY", "city" : "NEW YORK", "pop" : 1476790 }, "count" : 40 }
{ "_id" : { "state" : "NY", "city" : "BROOKLYN", "pop" : 2300504 }, "count" : 37 }
{ "_id" : { "state" : "FL", "city" : "MIAMI", "pop" : 825232 }, "count" : 34 }
{ "_id" : { "state" : "CA", "city" : "SAN DIEGO", "pop" : 1049298 }, "count" : 34 }
{ "_id" : { "state" : "OK", "city" : "OKLAHOMA CITY", "pop" : 368141 }, "count" : 33 }
{ "_id" : { "state" : "AZ", "city" : "PHOENIX", "pop" : 890853 }, "count" : 33 }
{ "_id" : { "state" : "GA", "city" : "ATLANTA", "pop" : 609591 }, "count" : 31 }
{ "_id" : { "state" : "CA", "city" : "SAN JOSE", "pop" : 816653 }, "count" : 29 }
{ "_id" : { "state" : "CA", "city" : "SACRAMENTO", "pop" : 628279 }, "count" : 28 }
{ "_id" : { "state" : "OK", "city" : "TULSA", "pop" : 389072 }, "count" : 28 }
{ "_id" : { "state" : "NE", "city" : "OMAHA", "pop" : 358930 }, "count" : 27 }
{ "_id" : { "state" : "OR", "city" : "PORTLAND", "pop" : 518543 }, "count" : 26 }
```

//Query3

> var docs=db.zips.find({loc:{\$geoWithin:{\$center:[[-72,42],2]}},{_id:0,state:1,pop:1,city:1})

> docs.forEach(function(doc){db.zipnew.insert(doc)})

```
>db.zipnew.aggregate([{$group:{_id:{state:"$state"},totalPop:{$sum:"$pop"},cityCount:{$sum:1}}},{$sort:{totalPop:-1}}])
```

```
{ "_id" : { "state" : "MA" }, "totalPop" : 5993392, "cityCount" : 468 }
{ "_id" : { "state" : "CT" }, "totalPop" : 3287116, "cityCount" : 263 }
{ "_id" : { "state" : "NY" }, "totalPop" : 2837242, "cityCount" : 273 }
{ "_id" : { "state" : "NH" }, "totalPop" : 1037553, "cityCount" : 182 }
{ "_id" : { "state" : "RI" }, "totalPop" : 1003218, "cityCount" : 69 }
{ "_id" : { "state" : "VT" }, "totalPop" : 185629, "cityCount" : 95 }
{ "_id" : { "state" : "ME" }, "totalPop" : 82551, "cityCount" : 18 }
```

```
//Query4
```

```
> db.zips.find({loc:{$geoWithin:{$geometry:{type:"Polygon",coordinates:[[-90,40],[-90,30],[-80,30],[-80,40],[-90,40]]}}}}).limit(10).sort({pop:-1})
```

```
{ "_id" : "27292", "city" : "LEXINGTON", "loc" : [ -80.262049, 35.82306 ], "pop" : 69179, "state" : "NC" }
{ "_id" : "32216", "city" : "JACKSONVILLE", "loc" : [ -81.547387, 30.293907 ], "pop" : 58867, "state" : "FL" }
{ "_id" : "30906", "city" : "PEACH ORCHARD", "loc" : [ -82.038358, 33.402024 ], "pop" : 58646, "state" : "GA" }
{ "_id" : "43701", "city" : "SONORA", "loc" : [ -82.008898, 39.944265 ], "pop" : 56655, "state" : "OH" }
{ "_id" : "47130", "city" : "JEFFERSONVILLE", "loc" : [ -85.735885, 38.307767 ], "pop" : 56543, "state" : "IN" }
{ "_id" : "43055", "city" : "NEWARK", "loc" : [ -82.404565, 40.072429 ], "pop" : 56412, "state" : "OH" }
{ "_id" : "30032", "city" : "DECATUR", "loc" : [ -84.263165, 33.740825 ], "pop" : 56056, "state" : "GA" }
{ "_id" : "30236", "city" : "JONESBORO", "loc" : [ -84.358968, 33.524236 ], "pop" : 55409, "state" : "GA" }
{ "_id" : "31907", "city" : "COLUMBUS", "loc" : [ -84.89799, 32.477909 ], "pop" : 54915, "state" : "GA" }
{ "_id" : "45601", "city" : "CHILLICOTHE", "loc" : [ -82.98949, 39.337997 ], "pop" : 54615, "state" : "OH" }
```