



LABTASK-13

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[COMPANY NAME] [Company address]



Task :1

```
db.cities.find({"population":{"$lt:30,$ne:0"}}).limit(2).pretty()
```

```
> db.cities.find({"population":{"$lt:30,$ne:0"}}).limit(2).pretty()
{
  "_id" : ObjectId("60c4d84cae21aade284f9a72"),
  "name" : "Tanggul",
  "country" : "ID",
  "timezone" : "Asia/Jakarta",
  "population" : 3,
  "location" : {
    "latitude" : -8.1645,
    "longitude" : 113.4525
  }
}
{
  "_id" : ObjectId("60c4d84dae21aade284fd80d"),
  "name" : "Ereencav",
  "country" : "MN",
  "timezone" : "Asia/Choibalsan",
  "population" : 23,
  "location" : {
    "longitude" : 49.8807,
    "latitude" : 115.72526
  }
}
>
```

Task :2

```
db.cities.find({timezone:"Asia/Jakarta"}).count()
```

```
> db.cities.find({timezone:"Asia/Jakarta"}).count()
1430
>
```

Task :3

```
db.cities.find({"timezone":"Asia/Karachi","country":"PK"}).sort({"population":-1}).forEach(printjson)
```

```

> db.cities.find({"timezone":"Asia/Karachi","country":"PK"}).sort({"population":-1}).forEach(printjson)
{
  "_id" : ObjectId("60c4d84dae21aade284ffb82"),
  "name" : "Karachi",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 11624219,
  "location" : {
    "longitude" : 24.9056,
    "latitude" : 67.0822
  }
}
{
  "_id" : ObjectId("60c4d84dae21aade284ffb55"),
  "name" : "Lahore",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 6310888,
  "location" : {
    "longitude" : 31.54972,
    "latitude" : 74.34361
  }
}
{
  "_id" : ObjectId("60c4d84dae21aade284ffbd2"),
  "name" : "Faisalābād",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 2506595,
  "location" : {
    "longitude" : 31.41667,
    "latitude" : 73.08333
  }
}
{
  "_id" : ObjectId("60c4d84dae21aade284ffa5"),
  "name" : "Peshawar",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 11624219,
  "location" : {
    "longitude" : 71.53485,
    "latitude" : 34.0155
  }
}

```

Task :4.1

db.cities.getIndexes()

```

> db.cities.getIndexes()
[ { "v" : 2, "key" : { "_id" : 1 }, "name" : "_id_" } ]
>

```

Task :4.2

db.cities.createIndex({population:1})

```

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

```

Task : 4.3

db.cities.dropIndex({population:1})

```
> db.cities.dropIndex({population:1})
{ "nIndexesWas" : 2, "ok" : 1 }
>
```

Task : 5.1

{timezone:"Europe/Andorra"}

The screenshot shows the MongoDB Compass web interface. The top navigation bar includes tabs for Documents, Aggregations, Schema, Explain Plan, Indexes, and Validation. The current view is 'Documents' for the collection '19p0073_4A.cities'. A filter is applied: {timezone:"Europe/Andorra"}. The interface displays 99.8k documents with a total size of 14.8MB and an average size of 155B. Below the filter bar, there are buttons for 'ADD DATA', 'VIEW' (with list, JSON, and grid icons), and a status bar indicating 'Displaying documents 1 - 9 of 9'. The main content area shows four document snippets, each with fields: _id (ObjectId), name, country, timezone, population, and location (Object).

Document
<pre>{ "_id": ObjectId("60c4d84bae21aade284ef2f5"), "name": "Ordino", "country": "AD", "timezone": "Europe/Andorra", "population": 3066, "location": Object }</pre>
<pre>{ "_id": ObjectId("60c4d84bae21aade284ef2f6"), "name": "Pas de la Casa", "country": "AD", "timezone": "Europe/Andorra", "population": 2363, "location": Object }</pre>
<pre>{ "_id": ObjectId("60c4d84bae21aade284ef2f7"), "name": "Sant Julià de Lòria", "country": "AD", "timezone": "Europe/Andorra", "population": 8022, "location": Object }</pre>
<pre>{ "_id": ObjectId("60c4d84bae21aade284ef2f8"), "name": "les Escaldes", "country": "AD", "timezone": "Europe/Andorra", "population": 15853, "location": Object }</pre>

Task:5.2

{population:{\$gt:12955000},country:"AR"}

19p0073_4A.cities Documents

19p0073_4A.cities

DOCUMENTS 99.8k TOTAL SIZE 14.8MB AVG. SIZE 155B INDEXES 1 TOTAL SIZE 888.0KB AVG. SIZE 888.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER [{population:{\$gt:12955000},country:"AR"}] **OPTIONS** **FIND** **RESET** ↺ ⋮

ADD DATA **VIEW** [List] [JSON] [Table]

Displaying documents 1 - 1 of 1 **REFRESH**

```
{
  "_id": ObjectId("60c4d84bae21aade284ef5d9"),
  "name": "Buenos Aires",
  "country": "AR",
  "timezone": "America/Argentina/Buenos_Aires",
  "population": 13076300,
  "location": Object
}
```

Task :5.2

{ "location.longitude":{\$eq:1.6}}

19p0073_4A.cities

DOCUMENTS 99.8k TOTAL SIZE 14.8MB AVG. SIZE 155B INDEXES 1 TOTAL SIZE 888.0KB AVG. SIZE 888.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER [{"location.longitude":{\$eq:1.6}}] **OPTIONS** **FIND** **RESET** ↺ ⋮

ADD DATA **VIEW** [List] [JSON] [Table]

Displaying documents 1 - 2 of 2 **REFRESH**

```
{
  "_id": ObjectId("60c4d84dae21aade284fe06b"),
  "name": "Senai",
  "country": "MY",
  "timezone": "Asia/Kuala_Lumpur",
  "population": 73176,
  "location": Object
}
```

```
{
  "_id": ObjectId("60c4d84dae21aade284fe0d6"),
  "name": "Ulu Tiram",
  "country": "MY",
  "timezone": "Asia/Kuala_Lumpur",
  "population": 75350,
  "location": Object
}
```

Task:5.3

`{"location.longitude":{"$eq:1.6}}`

`{location:1,population:1}`

19p0073_4A.cities

DOCUMENTS 99.8k

TOTAL SIZE 14.8MB

AVG. SIZE 155B

Documents

Aggregations

Schema

Explain Plan

Indexes

Validation

FILTER

`{"location.longitude":{"$eq:1.6}}`

PROJECT

`{location:1,population:1}`

SORT

`{ field: -1 }`

COLLATION

`{ locale: 'simple' }`

MAX TIME MS

60000

SKIP

0

LIMIT

0

VIEW

Displaying documents

`_id: ObjectId("60c4d84dae21aade284fe06b")`

`population: 73176`

`location: Object`

`_id: ObjectId("60c4d84dae21aade284fe0d6")`

`population: 75350`

`location: Object`