

Database System Lab

Task Name: Asjid Ahmed

Roll No: P17-6124

DB LAB Task: 13

Instructor: Muhammad Usman.

Exercise # 1

use 17P6124_6B;

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

```
> use 17P6124_6B
switched to db 17P6124_6B
> db.cities.find({"population":{$lt:30,$ne:0}}).limit(2).pretty();
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e92438"),
  "name" : "Tanggul",
  "country" : "ID",
  "timezone" : "Asia/Jakarta",
  "population" : 3,
  "location" : {
    "latitude" : -8.1645,
    "longitude" : 113.4525
  }
}
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e961cc"),
  "name" : "Ereencav",
  "country" : "MN",
  "timezone" : "Asia/Choibalsan",
  "population" : 23,
  "location" : {
    "longitude" : 49.8807,
    "latitude" : 115.72526
  }
}
>
```

Exercise # 2

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

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

Exercise # 3

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

```
> db.cities.find({"country":"PK","timezone":"Asia/Karachi"}).sort({"population": -1}).pretty();
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e98541"),
  "name" : "Karachi",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 11624219,
  "location" : {
    "longitude" : 24.9056,
    "latitude" : 67.0822
  }
}
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e98517"),
  "name" : "Lahore",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 6310888,
  "location" : {
    "longitude" : 31.54972,
    "latitude" : 74.34361
  }
}
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e98594"),
  "name" : "Faisalābād",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 2506595,
  "location" : {
    "longitude" : 31.41667,
    "latitude" : 73.08333
  }
}
{
  "_id" : ObjectId("60d82bf0d66cb9ea81e984ba")
```

Exercise # 4

```
db.cities.getIndexes();
```

```
db.cities.createIndex( {"population":1} );
```

```
db.cities.dropIndex( { "population":1 } );
```

```
> db.cities.getIndexes();
[ { "v" : 2, "key" : { "_id" : 1 }, "name" : "_id_" } ]
> db.cities.createIndex( {"population":1} );
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
> db.cities.dropIndex( { "population":1 } );
{ "indexesWas" : 2, "ok" : 1 }
>
```

Exercise # 5

Part 1

MongoDB Compass - localhost:27017/17P6124_6B.cities

Connect View Collection Help

Local

6 DBS 4 COLLECTIONS

☆ FAVORITE

HOST localhost:27017

CLUSTER Standalone

EDITION MongoDB 4.4.6 Community

Filter your data

17P6124_6B

cities

moviepeople_1000

> admin

> asjd

> config

> local

> test

17P6124_6B.cities Documents

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 {timezone:"Europe/Andorra"} OPTIONS FIND RESET ↺ ...

PROJECT { field: 0 }

SORT { field: -1 } MAX TIME MS 60000

COLLATION { locale: 'simple' } SKIP 0 LIMIT 0

ADD DATA VIEW

Displaying documents 1 - 9 of 9 REFRESH

```
_id: ObjectId("60d82beed66cb9ea81e87cb7")
name: "Sant Julià de Lòria"
country: "AD"
timezone: "Europe/Andorra"
population: 8022
location: Object

_id: ObjectId("60d82beed66cb9ea81e87cb8")
name: "Pas de la Casa"
country: "AD"
timezone: "Europe/Andorra"
population: 2363
location: Object

_id: ObjectId("60d82beed66cb9ea81e87cb9")
name: "Andorra la Vella"
country: "AD"
timezone: "Europe/Andorra"
population: 28430
location: Object
```

Part 2

MongoDB Compass - localhost27017/17P6124_6B.cities

Connect View Collection Help

Local

6 DBS 4 COLLECTIONS

☆ FAVORITE

HOST localhost:27017

CLUSTER Standalone

EDITION MongoDB 4.4.6 Community

Filter your data

17P6124_6B

cities ...

moviepeople_1000

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> asjid

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17P6124_6B.cities Documents

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

PROJECT { field: 0 }

SORT { field: -1 } MAX TIME MS 60000

COLLATION { locale: 'simple' } SKIP LIMIT

ADD DATA VIEW [] [] []

Displaying documents 1 - 1 of 1 REFRESH

```
{
  "_id": ObjectId("60d82beed66cb9ea81e87f9f"),
  "name": "Buenos Aires",
  "country": "AR",
  "timezone": "America/Argentina/Buenos_Aires",
  "population": 13076300,
  "location": Object
}
```

Part 3

MongoDB Compass - localhost27017/17P6124_6B.cities

Connect View Collection Help

Local

6 DBS 4 COLLECTIONS

☆ FAVORITE

HOST localhost:27017

CLUSTER Standalone

EDITION MongoDB 4.4.6 Community

Filter your data

17P6124_6B

cities ...

moviepeople_1000

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> asjid

> config

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17P6124_6B.cities Documents

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": 1.6} OPTIONS FIND RESET ↺ ⋮

PROJECT {_id: 0, location: 1, population: 1}

SORT { field: -1 } MAX TIME MS 60000

COLLATION { locale: 'simple' } SKIP LIMIT

VIEW [] [] []

Displaying documents 1 - 2 of 2 REFRESH

```
{
  "population": 73176,
  "location": {
    "longitude": 1.6,
    "latitude": 103.65
  }
},
{
  "population": 75350,
  "location": {
    "longitude": 1.6,
    "latitude": 103.81667
  }
}
```