

**NAME :: IBRAR BABAR**

**ROLL NO. :: P19-0104**

**SECTION :: 4A**

**DATABASE LAB (13)**

**LAB TASKS**

C:\Program Files\MongoDB\Server\4.4\bin>mongoimport --db 19P0104\_4A --collection cities --file G:\cities.jsonl

```
C:\Program Files\MongoDB\Server\4.4\bin>mongoimport --db 19P0104_4A --collection cities --file G:\cities.jsonl
2021-06-12T13:16:08.852+0500   connected to: mongodb://localhost/
2021-06-12T13:16:11.780+0500   99838 document(s) imported successfully. 0 document(s) failed to import.
```

### **EXERCISE#(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("60c46d4a95da44e07b68b799"),
  "name" : "Tanggul",
  "country" : "ID",
  "timezone" : "Asia/Jakarta",
  "population" : 3,
  "location" : {
    "latitude" : -8.1645,
    "longitude" : 113.4525
  }
}
{
  "_id" : ObjectId("60c46d4a95da44e07b68f52c"),
  "name" : "Ereencav",
  "country" : "MN",
  "timezone" : "Asia/Choibalsan",
  "population" : 23,
  "location" : {
    "longitude" : 49.8807,
    "latitude" : 115.72526
  }
}
```

---

## **EXERCISE#(2)**

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

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

---

## **EXERCISE#(3)**

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

[It is going to print 423 documents]

```
> db.cities.find({country : "PK",timezone:"Asia/Karachi"}).sort({population:-1}).forEach(printjson)
{
  "_id" : ObjectId("60c46d4a95da44e07b6918a1"),
  "name" : "Karachi",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 11624219,
  "location" : {
    "longitude" : 24.9056,
    "latitude" : 67.0822
  }
}
{
  "_id" : ObjectId("60c46d4a95da44e07b691875"),
  "name" : "Lahore",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 6310888,
  "location" : {
    "longitude" : 31.54972,
    "latitude" : 74.34361
  }
}
{
  "_id" : ObjectId("60c46d4a95da44e07b6918f2"),
```

---

## **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})
{ "nIndexesWas" : 2, "ok" : 1 }
>

```

## EXERCISE#5(I)

{timezone : "Europe/Andorra"}

19P0104\_4A.cities

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

Documents Aggregations Schema Explain Plan Indexes Validation

**FILTER** {timezone : "Europe/Andorra"} **OPTIONS** **FIND**

**PROJECT** { field: 0 }

**SORT** { field: -1 } **MAX TIME MS** 60000

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

**ADD DATA** **VIEW** **LIST** **JSON** **GRID**

Displaying documents 1 - 9 of 9

```

_id: ObjectId("60c46d4895da44e07b681014")
name: "Ordino"
country: "AD"
timezone: "Europe/Andorra"
population: 3066
> location: Object

```

```

_id: ObjectId("60c46d4895da44e07b681015")
name: "les Escaldes"
country: "AD"
timezone: "Europe/Andorra"
population: 15853
> location: Object

```

```

_id: ObjectId("60c46d4895da44e07b681016")
name: "Sant Julià de Lòria"
country: "AD"
timezone: "Europe/Andorra"
population: 8022
> location: Object

```

## EXERCISE#5(II)

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

19P0104\_4A.cities

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

Documents Aggregations Schema Explain Plan Indexes Validation

**FILTER** {population : {\$gt:12955000} , country : "AR"} **OPTIONS** **FIND**

**PROJECT** { field: 0 }

**SORT** { field: -1 } **MAX TIME MS** 60000

**COLLATION** { Locale: 'simple' } **SKIP** 0 **LIMIT** 0

**ADD DATA** **VIEW** **LIST** **JSON** **GRID**

Displaying documents 1 - 1 of 1

```
_id: ObjectId("60c46d4895da44e07b6812fb")
name: "Buenos Aires"
country: "AR"
timezone: "America/Argentina/Buenos_Aires"
population: 13076300
> location: Object
```

## EXERCISE#5(III)

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

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

19P0104\_4A.cities

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

Documents Aggregations Schema Explain Plan Indexes Validation

**FILTER** {"location.longitude":{\$eq:1.6}} **OPTIONS** **FIND**

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

**SORT** { field: -1 } **MAX TIME MS** 60000

**COLLATION** { Locale: 'simple' } **SKIP** 0 **LIMIT** 0

**VIEW** **LIST** **JSON** **GRID**

Displaying documents 1 - 2 of 2

```
population: 73176
  location: Object
    longitude: 1.6
    latitude: 103.65

population: 75350
  location: Object
    longitude: 1.6
    latitude: 103.81667
```