DBMS LAB ASSIGNMENT 13
Mongodb Indexes

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BSCS-4A
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1) Write a Query to return all the documents whose cities population is less than 30
not equal to zero, then uses the limit clause to limit the number of documents being returned to
just 2.

```
P20_0119_4A> db.Cities.find( {population: { $lt: 30, $ne: 0 }}).limit(2).forEach
(printjson);
{
  _id: ObjectId("6287699aa8199eeede321c62"),
  name: 'Tanggul',
  country: 'ID',
  timezone: 'Asia/Jakarta',
  population: 3,
  location: { latitude: -8.1645, longitude: 113.4525 }
}
{
  _id: ObjectId("6287699ba8199eeede3259fb"),
  name: 'Ereencav',
  country: 'MN',
  timezone: 'Asia/Choibalsan',
  population: 23,
  location: { longitude: 49.8807, latitude: 115.72526 }
}

P20_0119_4A>
```

2) Write a Query to count the number of the documents whose timezone is “Asia/Jakarta”.

```
P20_0119_4A> db.Cities.find({timezone: "Asia/Jakarta"}).count()
1430
P20_0119_4A>
```

3) Write a Query to return all the documents whose country is “PK” and country timezone is “Asia/Karachi” and return the documents based on the descending order of population.

```
    _id: ObjectId("6287699ca8199eeede327cc6"),
    name: 'Sheikhupura',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 361303,
    location: { longitude: 31.71306, latitude: 73.97833 }
  },
  {
    _id: ObjectId("6287699ca8199eeede327dfa"),
    name: 'Bhimbar',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 342900,
    location: { longitude: 32.97568, latitude: 74.07926 }
  },
  {
    _id: ObjectId("6287699ca8199eeede327d8c"),
    name: 'Jhang Sadr',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 341210,
    location: { longitude: 31.27396, latitude: 72.31604 }
  },
  {
    _id: ObjectId("6287699ca8199eeede327dac"),
    name: 'Gujrāt',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 301506,
    location: { longitude: 32.57276, latitude: 74.08959 }
  }
]
Type "it" for more
P20_0119_4A>
```

4) Write a query to get all the Indexes of cities collection and then add the index on
population field and then drop the index on population field.

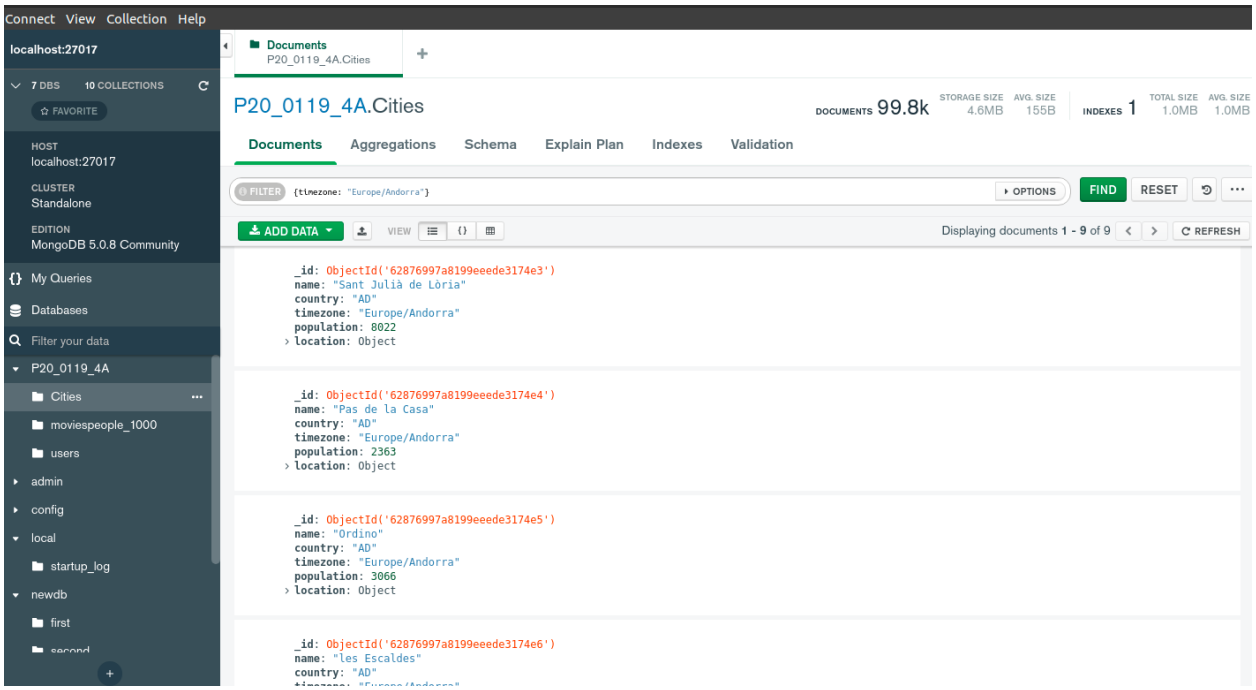
```
P20_0119_4A> db.Cities.getIndexes()
[ { v: 2, key: { _id: 1 }, name: '_id_' } ]
P20_0119_4A>
```

```
P20_0119_4A> db.Cities.createIndex({population:1})
population_1
P20_0119_4A>
```

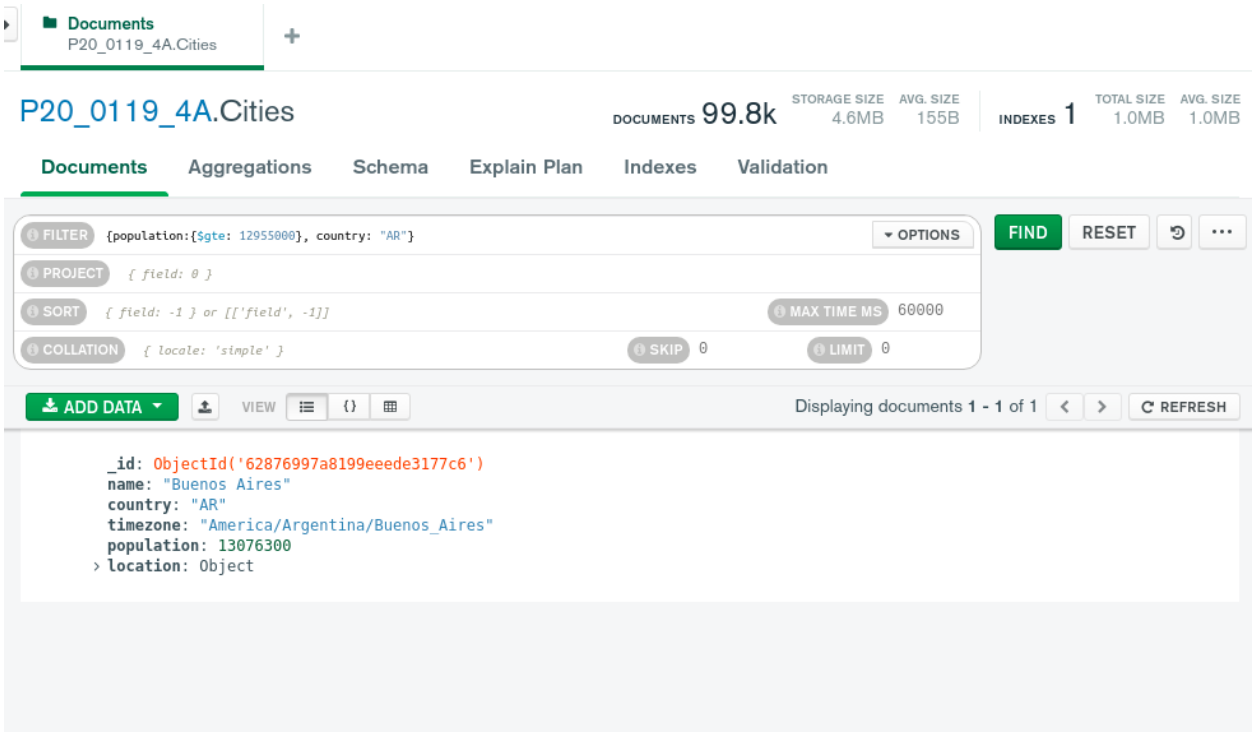
```
P20_0119_4A> db.Cities.dropIndex({population:1})
{ nIndexesWas: 2, ok: 1 }
P20_0119_4A>
```

5) Use MongoDB compass filter tab to write queries for finding:

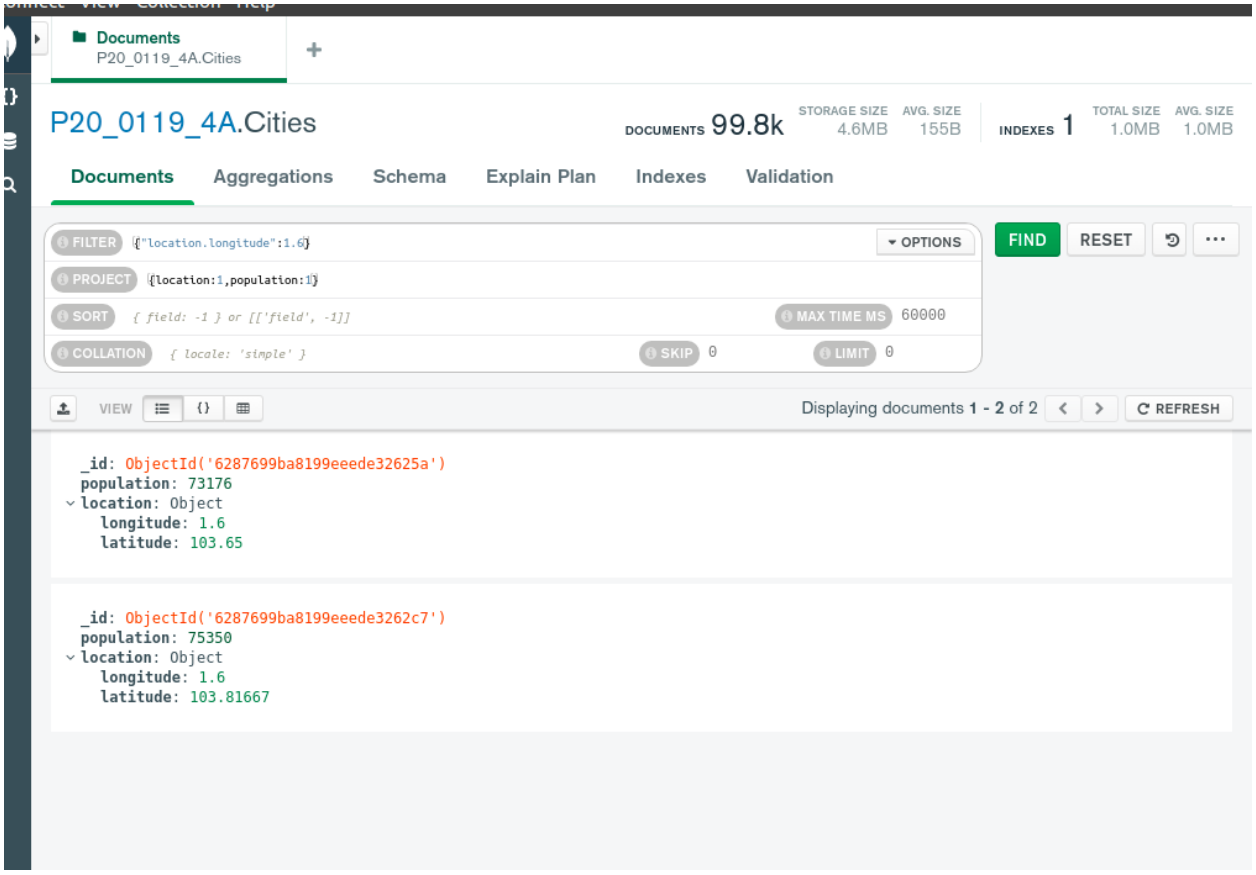
1) All those cities whose time zone is Europe/Andorra.



2) All those cities whose population is greater than 12955000 and country is AR.



3) A city whose longitude equals to 1.6. Your query should return location and population fields only. (hint: use project)


Documents
P20_0119_4A.Cities
P20_0119_4A.Cities
DOCUMENTS 99.8k
STORAGE SIZE 4.6MB
AVG. SIZE 155B
INDEXES 1
TOTAL SIZE 1.0MB
AVG. SIZE 1.0MB
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
FILTER {"location.longitude":1.6}
OPTIONS
FIND
RESET
PROJECT {location:1,population:1}
SORT { field: -1 } or [['field', -1]]
MAX TIME MS 60000
COLLATION { locale: 'simple' }
SKIP 0
LIMIT 0
VIEW
Displaying documents 1 - 2 of 2
REFRESH
_id: ObjectId('6287699ba8199eeede32625a')
population: 73176
location: Object
longitude: 1.6
latitude: 103.65
_id: ObjectId('6287699ba8199eeede3262c7')
population: 75350
location: Object
longitude: 1.6
latitude: 103.81667