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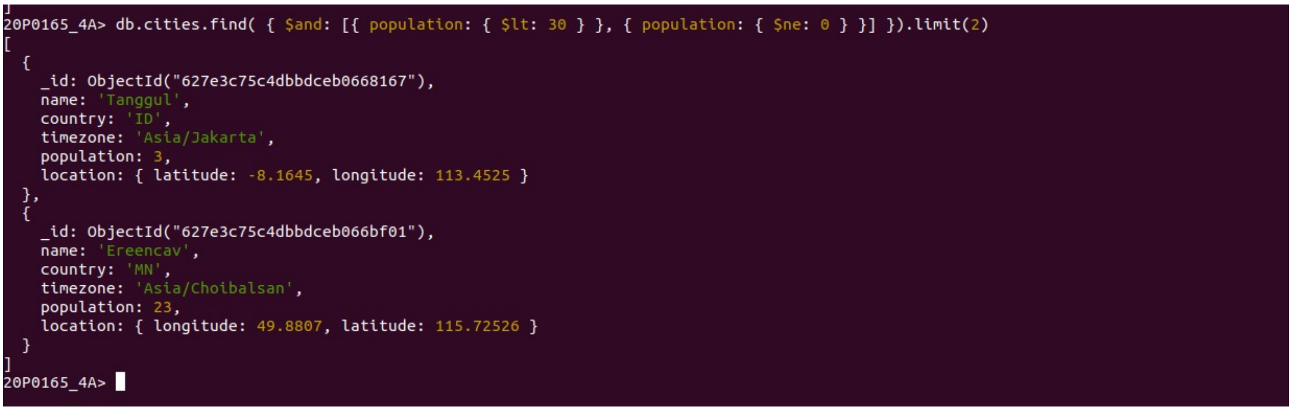
Section : BCS-4A

LAB#13 Excercises

TASK#1:

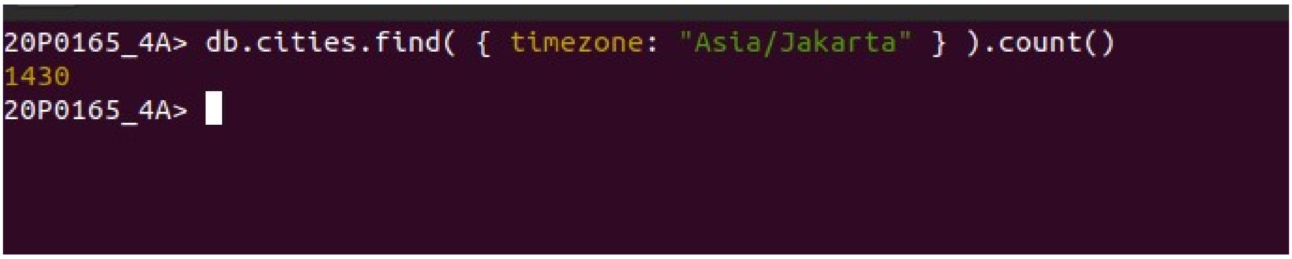
Write a Query to return all the documents whose cities population is less than 30
not equal to zero, then uses the limit clause to limit the number of documents being returned to just 2.



```
]
20P0165_4A> db.cities.find( { $and: [{ population: { $lt: 30 } }, { population: { $ne: 0 } }] }).limit(2)
[
  {
    _id: ObjectId("627e3c75c4dbbdceb0668167"),
    name: 'Tanggul',
    country: 'ID',
    timezone: 'Asia/Jakarta',
    population: 3,
    location: { latitude: -8.1645, longitude: 113.4525 }
  },
  {
    _id: ObjectId("627e3c75c4dbbdceb066bf01"),
    name: 'Ereencav',
    country: 'MN',
    timezone: 'Asia/Choibalsan',
    population: 23,
    location: { longitude: 49.8807, latitude: 115.72526 }
  }
]
20P0165_4A> 
```

TASK#2:

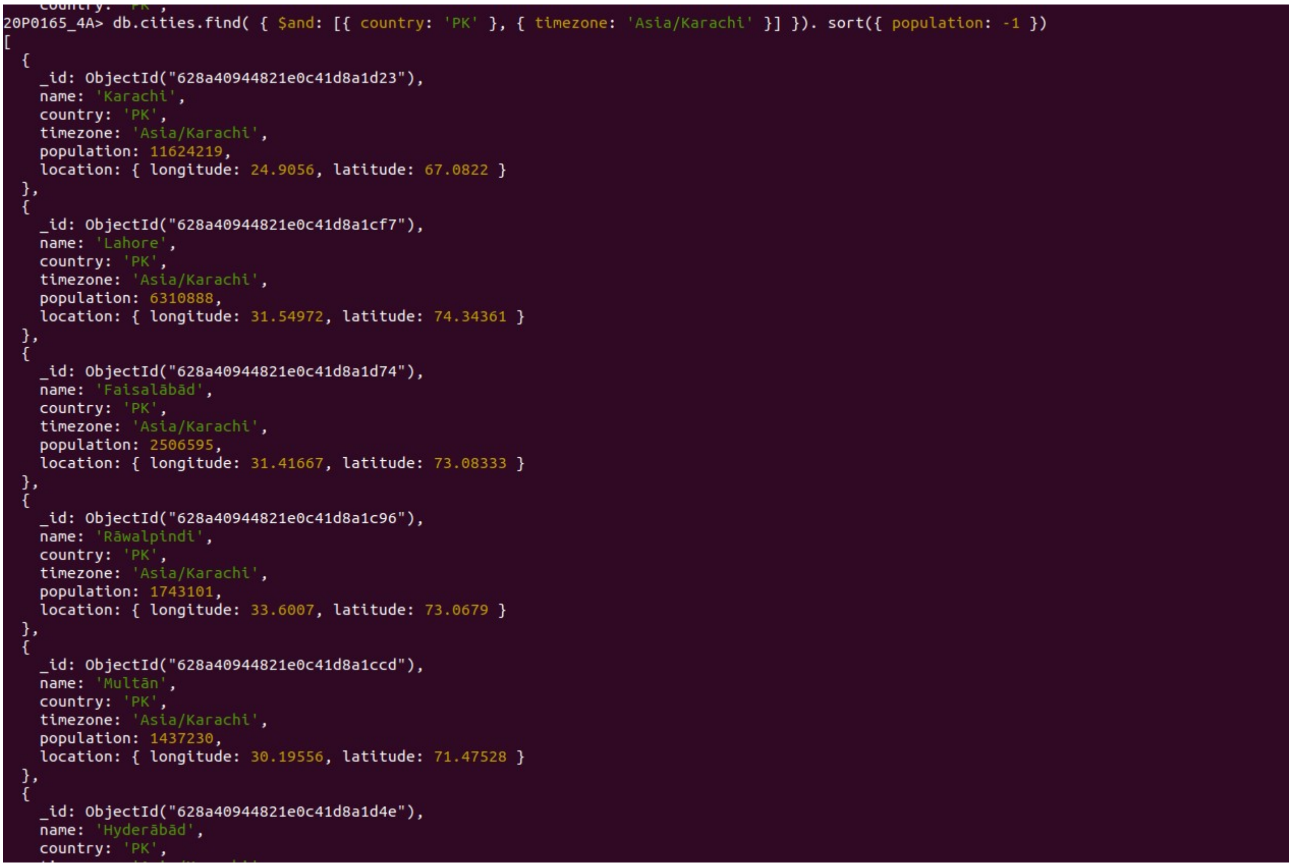
Write a Query to count the number of the documents whose timezone is
“Asia/Jakarta”.



```
20P0165_4A> db.cities.find( { timezone: "Asia/Jakarta" } ).count()
1430
20P0165_4A> 
```

TASK#3:

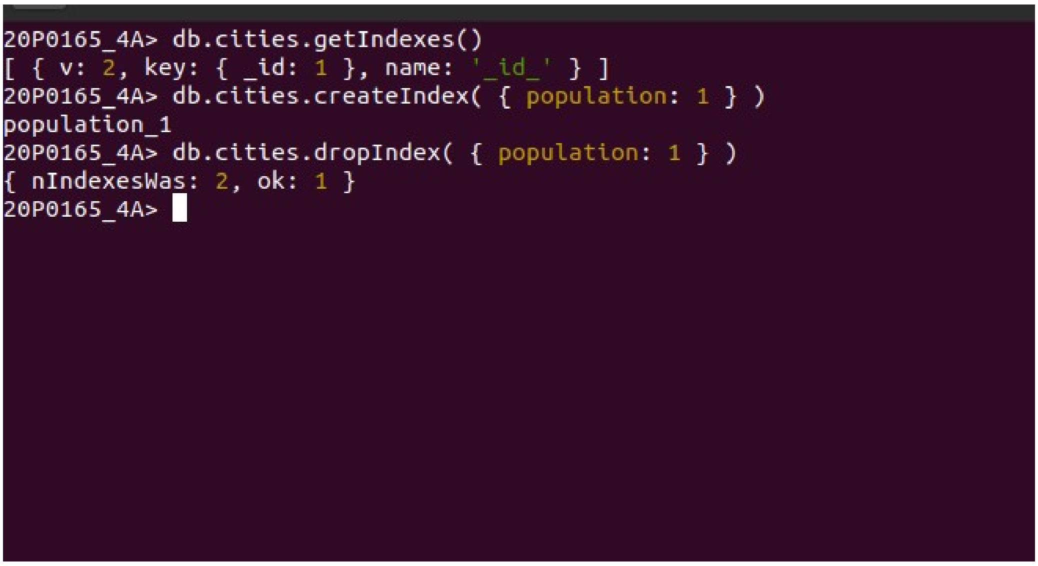
Write a Query to return all the documents whose country is “PK” and country timezone is “Asia/Karachi” and return the documents based on the descending order of population.



```
    country: 'PK',
20P0165_4A> db.cities.find( { $and: [{ country: 'PK' }, { timezone: 'Asia/Karachi' }] }). sort({ population: -1 })
[
  {
    _id: ObjectId("628a40944821e0c41d8a1d23"),
    name: 'Karachi',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 11624219,
    location: { longitude: 24.9056, latitude: 67.0822 }
  },
  {
    _id: ObjectId("628a40944821e0c41d8a1cf7"),
    name: 'Lahore',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 6310888,
    location: { longitude: 31.54972, latitude: 74.34361 }
  },
  {
    _id: ObjectId("628a40944821e0c41d8a1d74"),
    name: 'Faisalābād',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 2506595,
    location: { longitude: 31.41667, latitude: 73.08333 }
  },
  {
    _id: ObjectId("628a40944821e0c41d8a1c96"),
    name: 'Rāwalpindi',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 1743101,
    location: { longitude: 33.6007, latitude: 73.0679 }
  },
  {
    _id: ObjectId("628a40944821e0c41d8a1ccd"),
    name: 'Multān',
    country: 'PK',
    timezone: 'Asia/Karachi',
    population: 1437230,
    location: { longitude: 30.19556, latitude: 71.47528 }
  },
  {
    _id: ObjectId("628a40944821e0c41d8a1d4e"),
    name: 'Hyderābād',
    country: 'PK',
```

TASK#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.

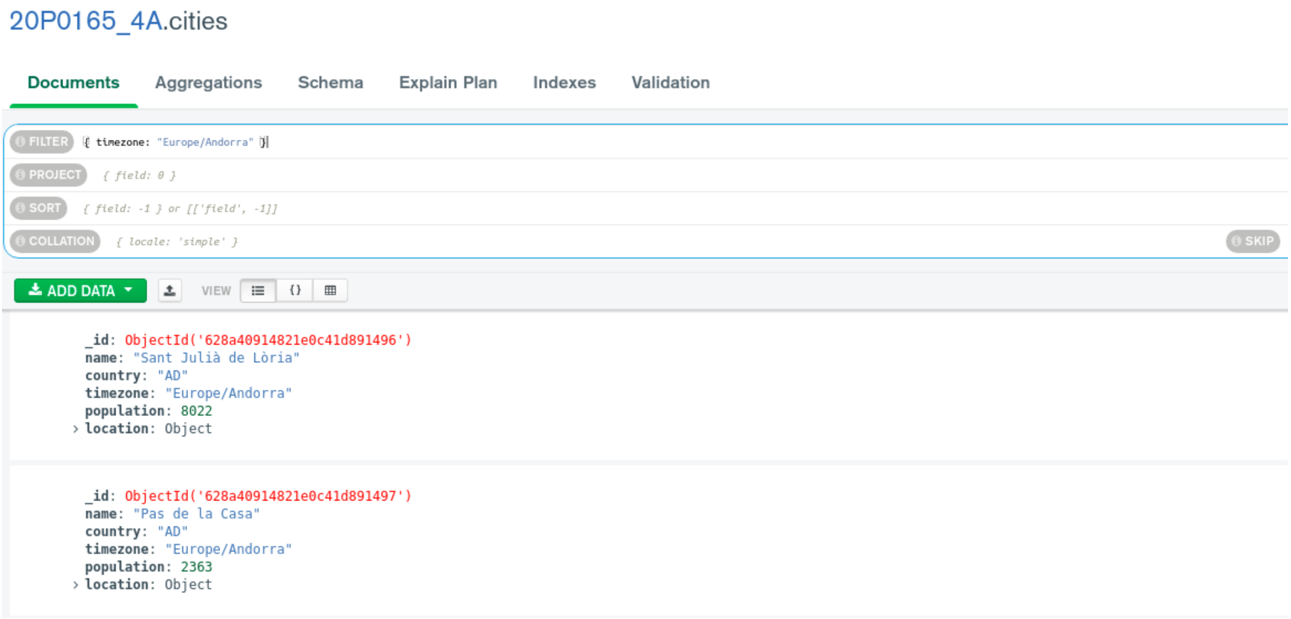


```
20P0165_4A> db.cities.getIndexes()
[ { v: 2, key: { _id: 1 }, name: '_id_' } ]
20P0165_4A> db.cities.createIndex( { population: 1 } )
population_1
20P0165_4A> db.cities.dropIndex( { population: 1 } )
{ nIndexesWas: 2, ok: 1 }
20P0165_4A> 
```

TASK#5:

Use MongoDB compass filter tab to write queries for finding:

- All those cities whose time zone is Europe/Andorra.



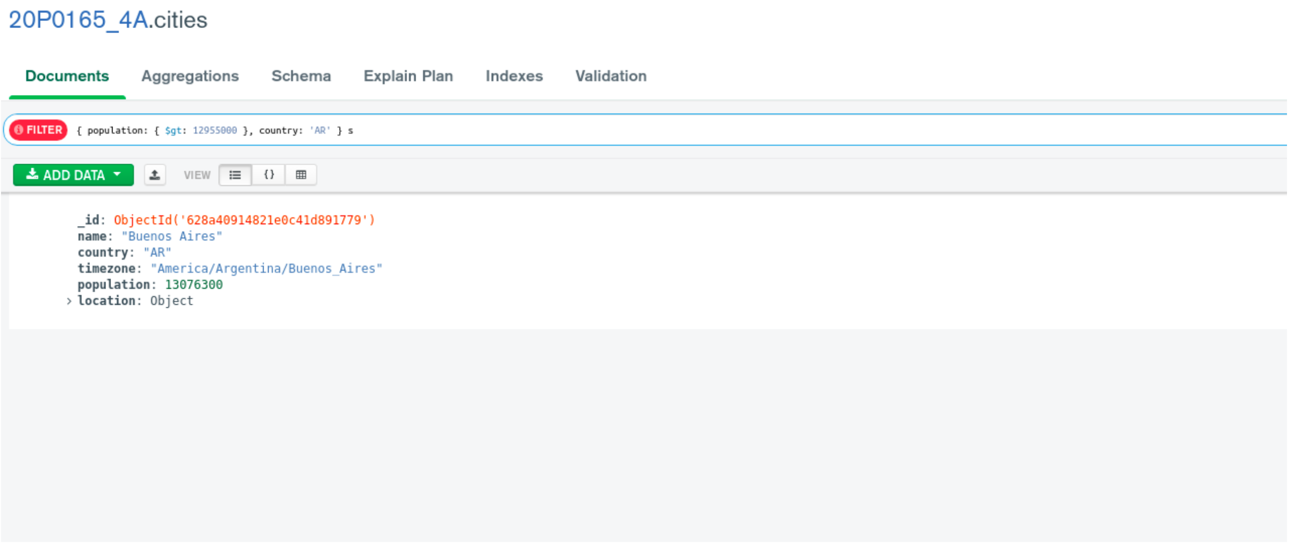
20P0165_4A.cities

```
FILTER { timezone: "Europe/Andorra" }
PROJECT { field: 0 }
SORT { field: -1 } or [['field', -1]]
COLLATION { locale: 'simple' }
```

```
_id: ObjectId('628a40914821e0c41d891496')
name: "Sant Julià de Lòria"
country: "AD"
timezone: "Europe/Andorra"
population: 8022
› location: Object
```

```
_id: ObjectId('628a40914821e0c41d891497')
name: "Pas de la Casa"
country: "AD"
timezone: "Europe/Andorra"
population: 2363
› location: Object
```

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

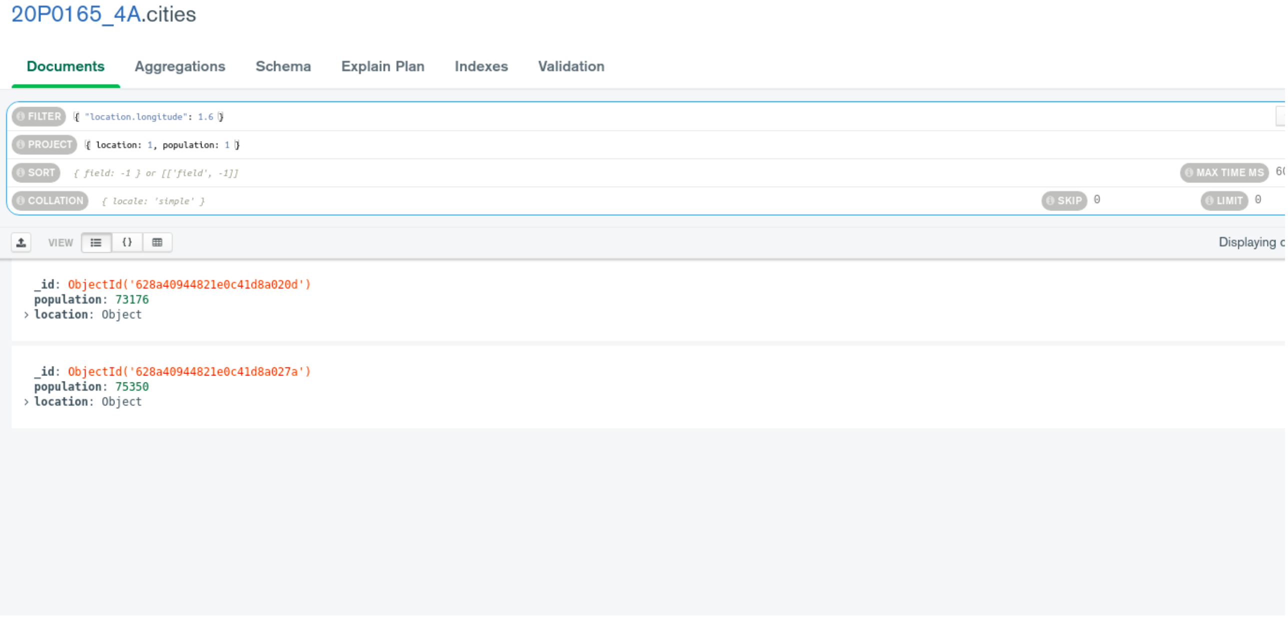


20P0165_4A.cities

```
FILTER { population: { $gt: 12955000 }, country: 'AR' } s
```

```
_id: ObjectId('628a40914821e0c41d891779')
name: "Buenos Aires"
country: "AR"
timezone: "America/Argentina/Buenos_Aires"
population: 13076300
› location: Object
```

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



20P0165_4A.cities

FILTER { "location.longitude": 1.6 }

PROJECT { location: 1, population: 1 }

SORT { field: -1 } or [['field', -1]]

MAX TIME MS 60

COLLATION { locale: 'simple' }

SKIP 0

LIMIT 0

```
 _id: ObjectId('628a40944821e0c41d8a020d')
 population: 73176
› location: Object

 _id: ObjectId('628a40944821e0c41d8a027a')
 population: 75350
› location: Object
```