

DATABASE SYSTEMS LAB



LAB TASK # 12

Submitted By

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1) Create a database named your rollno_section (i.e. 18P0014_6B).

```
> use P19-0030;
switched to db P19-0030
> db;
P19-0030
>
```

2) Create collections named cities and moviepeople_1000.

```
> show collections;
cities
movies
>
```

3) Import the documents cities.jsonl and moviepeople-1000.jsonl into the cities and moviepeople collection respectively by issuing the following command. (download the datasets from google class room in Datasets directory)

Import by using MongoDB Compass

4) In the mongo shell client, write queries for finding: (hint: use cities collection)

i. All those cities whose time zone is Africa/Harare.

```
movies
> db.cities.find(
... {timezone:"Africa/Harare"}).pretty()
{
  "_id" : ObjectId("62866c84c69fdd0df970e18f"),
  "name" : "Zvishavane",
  "country" : "ZW",
  "timezone" : "Africa/Harare",
  "population" : 35896,
  "location" : {
    "latitude" : -20.32674,
    "longitude" : 30.06648
  }
}
```

```

}
{
  "_id" : ObjectId("62866c84c69fdd0df970e191"),
  "name" : "Shurugwi",
  "country" : "ZW",
  "timezone" : "Africa/Harare",
  "population" : 17075,
  "location" : {
    "latitude" : -19.67016,
    "longitude" : 30.00589
  }
}
{
  "_id" : ObjectId("62866c84c69fdd0df970e192"),
  "name" : "Shangani",
  "country" : "ZW",
  "timezone" : "Africa/Harare",
  "population" : 3835,
  "location" : {
    "latitude" : -19.78333,
    "longitude" : 29.36667
  }
}
{
  "_id" : ObjectId("62866c84c69fdd0df970e193"),
  "name" : "Shamva",
  "country" : "ZW",
  "timezone" : "Africa/Harare",
  "population" : 10317,

```

ii. All those cities whose population is greater than 12985000.

```

> db.cities.find( {population:{$gt:12985000}}).pretty()
{
  "_id" : ObjectId("62866c77c69fdd0df96f5eb4"),
  "name" : "Buenos Aires",
  "country" : "AR",
  "timezone" : "America/Argentina/Buenos_Aires",
  "population" : 13076300,
  "location" : {
    "latitude" : -34.61315,
    "longitude" : -58.37723
  }
}
{
  "_id" : ObjectId("62866c79c69fdd0df96f82a5"),
  "name" : "Shanghai",
  "country" : "CN",
  "timezone" : "Asia/Shanghai",
  "population" : 14608512,
  "location" : {
    "longitude" : 31.22222,
    "latitude" : 121.45806
  }
}
>

```

iii. A city whose longitude equals to -58.37723. Your query should return location and population fields only. (hint: use projection)

```
> db.cities.find({"location.longitude":{"$eq:-58.37723"}},{location:1,population:1,_id:0}).pretty()
{
  "population" : 13076300,
  "location" : {
    "latitude" : -34.61315,
    "longitude" : -58.37723
  }
}
```

5) Write a query to update the population from 35000 to 55000 whose country is PK and a location latitude of 73.2122. (hint: use cities collection)

BEFORE UPDATING:

```
> db.cities.find({country:"PK","location.latitude":{"$eq:73.2122"}}).pretty()
{
  "_id" : ObjectId("62866c80c69fdd0df970651b"),
  "name" : "Malakwal City",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 35000,
  "location" : {
    "longitude" : 32.55492,
    "latitude" : 73.2122
  }
}
```

```
> db.cities.updateOne({country:"PK","location.latitude":{"$eq:73.2122"},population:35000}, {$set:{population:55000}})
{"acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
```

AFTER UPDATING:

```

{ acknowledged : true, matchedcount : 1, modifiedcount : 1 }
> db.cities.find({country:"PK","location.latitude":{$eq:73.2122}}).pretty()
{
  "_id" : ObjectId("62866c80c69fdd0df970651b"),
  "name" : "Malakwal City",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 55000,
  "location" : {
    "longitude" : 32.55492,
    "latitude" : 73.2122
  }
}

```

6) Write a query to delete the document whose timezone is Asia/Karachi and a country is PK. (hint: use cities collection)

```

> db.cities.deleteOne({timezone:"Asia/karachi",country:"Pk"})
{ "acknowledged" : true, "deletedCount" : 0 }
>

```

7) Write a query for finding the document whose birthname name array contains ("Freeman, Crispin McDougal") as a value. (hint: use moviepeople collection)

```

> db.movies.find({"info.birthname":["Freeman,Crispin McDougal"]}).pretty()

```