Assignment:

MongoDB Hands On Practice:

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I . Database Operations:

1 . Creating Database:

```
mongdb> use sampledb
switched to db sampledb
sampledb> // creates a sample database
```

2 . Creating a collection in the database

```
sampledb> db.createCollection("user")
{ ok: 1 }
sampledb> // creates a collection
```

3 . Displaying current database

```
sampledb> db
sampledb
sampledb> // shows the current database
```

4 . Displaying all the databases

```
sampledb> show dbs
admin     40.00 KiB
config    96.00 KiB
local     40.00 KiB
mongdb    40.00 KiB
sampledb   8.00 KiB
sampledb> // shows all the databases with at least one collection
```

5. Dropping a database

```
sampledb> db.dropDatabase()
{ ok: 1, dropped: 'sampledb' }
sampledb> show dbs
admin   40.00 KiB
config  96.00 KiB
local   40.00 KiB
mongdb  40.00 KiB
sampledb> // dropped the database
```

II . Collection Operations

<u>Create from CRUD:</u>

1 . Creating a collection in Database:

```
sampledb> db.createCollection("user")
{ ok: 1 }
sampledb> // creates a collection
```

2 . Showing all the existing collections in database:

```
sampledb> use assignment
switched to db assignment
assignment> db.createCollection("practise")
{ ok: 1 }
assignment> show collections
practise
```

3 . Deleting a collection from the database

```
assignment> db.createCollection("ToBeDeleted")
{ ok: 1 }
assignment> show collections
practise
ToBeDeleted
assignment> db.ToBeDeleted.drop()
true
assignment> show collections
practise
assignment> // dropped a collection -- syntax: db.collection_name.drop()
```

4 . Inserting a document into collection

```
assignment> db.practice.insertOne({
| name: "Esaq",
| age: 22,
| gender: "Male",
| mail: "mynameisesaq@gmail.com",
| phone: "+91 8667637590"
| })
{
  acknowledged: true,
  insertedId: ObjectId('687e85ff039a334bcf03c0aa')
}
assignment> // inserting single document into the collection
```

5 . Inserting many documents into collection

```
assignment> db.practice.insertMany([ { Name: "Aamrish", age: 21, gender: "Male", mail: "aamrish@gmail.com", phone: "+91 887766577"},
| {Name: "Akthar", age: 20, gender: "Male", mail: "aktharparvez@gmail.com", phone: "+91 998877733"},
| {Name: "Anbarasan", age: 21, gender: "Male", mail: "anbu2003@gmail.com", phone: "+91 4433999000"}
| ])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('687e87cf039a334bcf03c0ab'),
    '1': ObjectId('687e87cf039a334bcf03c0ac'),
    '2': ObjectId('687e87cf039a334bcf03c0ad')
  }
}
assignment> // inserting multiple documents at a time -- insertMany
```

<u>Read from CRUD</u>

6. Displaying all the documents in the collection

```
assignment> db.practice.find()
[
  {
    _id: ObjectId('687e85ff039a334bcf03c0aa'),
    name: 'Esaq',
    age: 22,
    gender: 'Male',
    mail: 'mynameisesaq@gmail.com',
    phone: '+91 8667637590'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ab'),
    Name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ac'),
    Name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ad'),
    Name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> //displaying all the documents in the collection
```

7 . Displaying specific documents with AGE 20 and 21 using IN operator

```
assignment> db.practice.find({age: {$in : [20, 21]}})
[
  {
    _id: ObjectId('687e87cf039a334bcf03c0ab'),
    Name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ac'),
    Name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ad'),
    Name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // selecting specific document with age 20 and 21 using IN
```

8 . Displaying documents with AGE 20 or NAME Anbarasan using OR

```
assignment> db.practice.find({$or: [ {age: 20}, {Name: 'Anbarasan'}]})
[
  {
    _id: ObjectId('687e87cf039a334bcf03c0ac'),
    Name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e87cf039a334bcf03c0ad'),
    Name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // displaying documents which have either age 20 or name Anbarasan OR opereator
```

9 . Displaying documents using AND operator

```
assignment> db.practice.find({age: 20, Name: 'Akthar'})
[
  {
    _id: ObjectId('687e87cf039a334bcf03c0ac'),
    Name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  }
]
assignment> db.practice.find({age: 20, Name: 'Anbarasan'})

assignment> // displaying documents that have both age as 20 and name as Anbarasan
```

10 . Displaying ID, NAME, and AGE field from the collection

```
assignment> db.practice.find({}, {name: 1, age: 1})
[
  { _id: ObjectId('687e85ff039a334bcf03c0aa'), name: 'Esaq', age: 22 },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21
  }
]
assignment> // displays only the id, name and age field from the collection
```

11 . Displaying only NAME and AGE field from the collection

```
assignment> db.practice.find({}, {name: 1, age: 1, _id: 0})
[
  { name: 'Esaq', age: 22 },
  { name: 'Aamrish', age: 21 },
  { name: 'Akthar', age: 20 },
  { name: 'Anbarasan', age: 21 }
]
assignment> // displays only the name and age field from the collection
```

12. Display documents with AGE greater than 21

```
assignment> db.practice.find({age: {$gt: 21}})
[
  {
    _id: ObjectId('687e85ff039a334bcf03c0aa'),
    name: 'Esaq',
    age: 22,
    gender: 'Male',
    mail: 'mynameisesaq@gmail.com',
    phone: '+91 8667637590'
  }
]
assignment> // filtering by greater than operator $gt
```

13 . Displaying documents with AGE greater than or equal to 21

```
assignment> db.practice.find({age: {$gte: 21}})
[
  {
    _id: ObjectId('687e85ff039a334bcf03c0aa'),
    name: 'Esaq',
    age: 22,
    gender: 'Male',
    mail: 'mynameisesaq@gmail.com',
    phone: '+91 8667637590'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // filtering by greater than equal to operator $gte
```

14. Displaying documents with AGE lesser than 21

```
assignment> db.practice.find({age: {$lt: 21}})
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  }
]
assignment> // filtering by lesser than operator $lt
```

15. Displaying documents with AGE less than or equal to 21

```
assignment> db.practice.find({age: {$lte: 21}})
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // filtering by lesser than equal to operator $lte
```

16 . Displaying documents with letter R in their NAME:

```
assignment> db.practice.find({name: /r/})
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // filtering the names with a R in it
```

17 . Displaying documents with letter R in their NAME and sorting by AGE ascending and descending order.

```
assignment> db.practice.find({name: /r/}).sort({age: 1})
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  }
]
assignment> // filtering the names with a R in it and sorting by AGE asc

assignment> db.practice.find({name: /r/}).sort({age: -1})
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbu2003@gmail.com',
    phone: '+91 4433999000'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  }
]
assignment> // filtering the names with a R in it and sorting by AGE desc
```

18 . Displaying the count of documents in the collection and the count of documents with NAME as its field.

```
assignment> db.practice.count()
4
assignment> db.practice.find().count()
(node:83773) [MONGODB DRIVER] Warning: cursor.count is deprecated and will be removed in the next major version, please use `collection.estimatedDocumentCount` or `collection.countDo
uments` instead
(Use `node --trace-warnings ...` to show where the warning was created)
4
assignment> // counting the documents in collection

assignment> db.practice.count({name: {$exists: true}})
4
assignment> // counting no. of name field in the collection
```

19 . Display the DISTINCT AGES in the collections

```
assignment> db.practice.distinct("age")
[ 20, 21, 22 ]
assignment> // selecting distinct ages
```

20 . Displaying only one document from the collection

```
assignment> db.practice.find().limit(1)
[
  {
    _id: ObjectId('687e85ff039a334bcf03c0aa'),
    name: 'Esaq',
    age: 22,
    gender: 'Male',
    mail: 'mynameisesaq@gmail.com',
    phone: '+91 8667637590'
  }
]
assignment> // selecting only one document from collection
```

21 . Displaying only one document from the collection after skipping 2 documents

```
assignment> db.practice.find().limit(1).skip(2)
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  }
]
assignment> // selecting only one document after skipping 2 document
```

Update from CRUD

22 . Updating a document from a collection PRACTICE

```
assignment> db.practice.updateOne({name: "Anbarasan"}, {$set: {mail: "anbarasan@yahoo.com"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
assignment> //update a document from collection
```

Delete from CRUD

23 . Deleting a document from collection where NAME is Esaq

```
assignment> db.practice.deleteOne({name: "Esaq"})
{ acknowledged: true, deletedCount: 1 }
assignment> db.practice.find()
[
  {
    _id: ObjectId('687e8ed7039a334bcf03c0ae'),
    name: 'Aamrish',
    age: 21,
    gender: 'Male',
    mail: 'aamrish@gmail.com',
    phone: '+91 887766577'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0af'),
    name: 'Akthar',
    age: 20,
    gender: 'Male',
    mail: 'aktharparvez@gmail.com',
    phone: '+91 998877733'
  },
  {
    _id: ObjectId('687e8ed7039a334bcf03c0b0'),
    name: 'Anbarasan',
    age: 21,
    gender: 'Male',
    mail: 'anbarasan@yahoo.com',
    phone: '+91 4433999000'
  }
]
assignment> // deleting document where name = esaq
```

24. Deleting all the documents from a collection

```
assignment> db.practice.deleteMany({})
{ acknowledged: true, deletedCount: 3 }
assignment> db.practice.find()
[
assignment> // deleting all the documents from collection
```