LABORATORY PROGRAM – 1

MongoDB- CRUD Operations Demonstration (Practice and Self Study)

OBSERVATION

COMMAND WITH OUTPUT - USING ATLAS

```
Atlas atlas-2vljb9-shard-0 [primary] test> show dbs
e-commerce  108.00 KiB
myDB         40.00 KiB
admin       232.00 KiB
local        15.70 GiB
Atlas atlas-2vljb9-shard-0 [primary] test> use myDB
switched to db myDB
Atlas atlas-2vljb9-shard-0 [primary] myDB> db
myDB
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.createCollection("Student");
{ ok: 1 }
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.insert({RollNo:1,Age:21,Cont:9876,email:"antara.de9@gmail.com"});
...
... db.Student.insert({RollNo:2,Age:22,Cont:9976,email:"anushka.de9@gmail.com"});
...
... db.Student.insert({RollNo:3,Age:21,Cont:5576,email:"anubhav.de9@gmail.com"});
...
... db.Student.insert({RollNo:0,Age:20,Cont:0076,email:"pani.de9@gmail.com"});
...
... db.Student.insert({RollNo:10,Age:23,Cont:2276,email:"rekha.de9@gmail.com"});
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67c6c898899c67e814fa4218') }
}
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.insert({RollNo:1,Age:21,Cont:9876,email:"antara.de9@gmail.com"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67c6c8a3899c67e814fa4219') }
}
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.insert({RollNo:2,Age:22,Cont:9976,email:"anushka.de9@gmail.com"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67c6c8f7899c67e814fa421a') }
}
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.insert({RollNo:3,Age:21,Cont:5576,email:"anubhav.de9@gmail.com"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67c6c8fb899c67e814fa421b') }
}
```

```
Atlas atlas-2vljb9-shard-0 [primary] test> show dbs
e-commerce  108.00 KiB
myDB         72.00 KiB
admin       312.00 KiB
local        64.34 GiB
Atlas atlas-2vljb9-shard-0 [primary] test> use myDB
switched to db myDB
Atlas atlas-2vljb9-shard-0 [primary] myDB> db
myDB
Atlas atlas-2vljb9-shard-0 [primary] myDB> show collections
Student
```

```
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.find()
[
  {
    _id: ObjectId('67c6c898899c67e814fa4214'),
    RollNo: 1,
    Age: 21,
    Cont: 9876,
    email: 'antara.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c898899c67e814fa4215'),
    RollNo: 2,
    Age: 22,
    Cont: 9976,
    email: 'anushka.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c898899c67e814fa4216'),
    RollNo: 3,
    Age: 21,
    Cont: 5576,
    email: 'anubhav.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c898899c67e814fa4217'),
    RollNo: 4,
    Age: 20,
    Cont: 4476,
    email: 'pani.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c898899c67e814fa4218'),
    RollNo: 10,
    Age: 23,
    Cont: 2276,
    email: 'Abhinav@gmail.com'
  },
  {
    _id: ObjectId('67c6c8a3899c67e814fa4219'),
    RollNo: 1,
    Age: 21,
    Cont: 9876,
    email: 'antara.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c8f7899c67e814fa421a'),
    RollNo: 2,
    Age: 22,
    Cont: 9976,
    email: 'anushka.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c8fb899c67e814fa421b'),
    RollNo: 3,
    Age: 21,
    Cont: 5576,
    email: 'anubhav.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c8fd899c67e814fa421c'),
    RollNo: 4,
    Age: 20,
    Cont: 4476,
    email: 'pani.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6c904899c67e814fa421d'),
    RollNo: 10,
    Age: 23,
    Cont: 2276,
    email: 'rekha.de9@gmail.com'
  },
  {
    _id: ObjectId('67c6ca34899c67e814fa421e'),
    RollNo: 11,
    Age: 22,
    Name: 'FEM',
    Cont: 2276,
    email: 'rea.de9@gmail.com'
  }
]
```

```
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.updateOne({"RollNo": 10}, {$set: {"email": "john.deo@gmail.com"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-2vljb9-shard-0 [primary] myDB> db.Student.find(
... {"Name": /^F/}
... )
[
  {
    _id: ObjectId('67c6ca34899c67e814fa421e'),
    RollNo: 11,
    Age: 22,
    Name: 'FEM',
    Cont: 2276,
    email: 'rea.de9@gmail.com'
  }
]
Atlas atlas-2vljb9-shard-0 [primary] myDB>
```

MongoDB- CRUD Operations Demonstration (Practice and Self Study)

COMMAND WITH OUTPUT - USING UBUNTU TERMINAL

```
MyDataBase> use MyDataBase
already on db MyDataBase
MyDataBase> show collections
Customers
NewStudent
Student
MyDataBase> db.Student.find();
[
  {
    _id: 1,
    studName: 'Michellejacintha',
    Grade: 'VII',
    Hobbies: 'InternetSurfing'
  },
  { _id: 3, Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' },
  { _id: 2, Grade: 'VIII', StudName: 'Ram', Hobbies: 'Learning' }
]
```

```
test> use MyDataBase
switched to db MyDataBase
MyDataBase> show collections
NewStudent
NewStudent2
Student
MyDataBase> db.NewStudent2.drop();
true
MyDataBase> db.createCollection("Customers");
{ ok: 1 }
MyDataBase> db.Customers.insertMany([{cust_id:1,Balance:200, Type:"S"},]);
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d00571207666297fa3b81a') }
}
MyDataBase> db.Customers.insert({cust_id:1,Balance:1000, Type:"Z"})
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d0058f207666297fa3b81b') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:100, Type:"Z"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d0059c207666297fa3b81c') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:1000, Type:"C"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005a5207666297fa3b81d') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:500, Type:"C"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005ad207666297fa3b81e') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:50, Type:"S"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005b2207666297fa3b81f') }
}
MyDataBase> db.Customers.insert({cust_id:3,Balance:500, Type:"Z"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005ba207666297fa3b820') }
}
```

```
MyDataBase> db.Customers.aggregate([
...    {
...      $group: {
...        _id: "$cust_id",            // Group by cust_id
...        minAccBal: { $min: "$Balance" }, // Find the minimum Balance
...        maxAccBal: { $max: "$Balance" }  // Find the maximum Balance
...      }
...    }
... ]);
[
  { _id: 3, minAccBal: 500, maxAccBal: 500 },
  { _id: 2, minAccBal: 50, maxAccBal: 1000 },
  { _id: 1, minAccBal: 200, maxAccBal: 1000 }
]
```

```
MyDataBase> db.Customers.aggregate([
...    { $match: { Type: "Z" } },
...    { $group: { _id: "$cust_id", TotAccBal: { $sum: "$Balance" } } },
...    { $match: { TotAccBal: { $gt: 1200 } } }
... ]);
```

```
MyDataBase> db.Customers.aggregate([
...    { $match: { Type: "Z" } },
...    {
...      $group: {
...        _id: "$cust_id",
...        TotAccBal: { $sum: "$Balance" }
...      }
...    },
...    {
...      $match: {
...        TotAccBal: { $gt: 200 }
...      }
...    }
... ]);
[ { _id: 3, TotAccBal: 500 }, { _id: 1, TotAccBal: 1000 } ]
```

```
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoimport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=csv --file /home/bmscecse/Desktop/135.txt --headerline
2025-03-11T14:55:05.192+0530    connected to: mongodb://localhost/
2025-03-11T14:55:05.360+0530    3 document(s) imported successfully. 0 document(s) failed to import.
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoexport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=json --file /home/bmscecse/Desktop/135.txt
2025-03-11T14:55:24.438+0530    error parsing command line options: unknown option "file"
2025-03-11T14:55:24.438+0530    try 'mongoexport --help' for more information
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoexport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=json --out /home/bmscecse/Desktop/135.txt
2025-03-11T14:55:32.771+0530    connected to: mongodb://localhost/
2025-03-11T14:55:32.780+0530    exported 3 records
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$
```