Introduction to MongoDB

Creating a collection:

```
db.createCollection("College")
```

Using the insertOne():

```
db.College.insertOne({name:"NKV", age: 19, dept: "cs"})
```

Printing the collection:

```
db.College.find()
```

Output:

```
Output:

{ "ok" : 1 }
{
        "acknowledged" : true,
        "insertedId" : ObjectId("67458e601848cd5a34381a80")
}
{ "_id" : ObjectId("67458e601848cd5a34381a80"), "name" : "NKV", "age" : 19, "dept" : "cs" }
```

Using the insertMany():

```
db.College.insertMany([
    { name: "Prathibha", age: 20, dept: "cs" },
    { name: "Hadi", age: 19, dept: "cs" },
    { name: "Sabari", age: 18, dept: "cs" },
    { name: "Hiba", age: 19, dept: "cs" }
]);
```

Output:

```
{ "_id" : ObjectId("67458ff1f8306f85a4ed1290"), "name" : "NKV", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("67458ff1f8306f85a4ed1291"), "name" : "Prathibha", "age" : 20, "dept" : "cs" }
{ "_id" : ObjectId("67458ff1f8306f85a4ed1292"), "name" : "Hadi", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("67458ff1f8306f85a4ed1293"), "name" : "Sabari", "age" : 18, "dept" : "cs" }
{ "_id" : ObjectId("67458ff1f8306f85a4ed1294"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

Function for updating the existing value:

```
db.College.updateOne(
    { name: "Prathibha" },
    { $set: { age: 21 } }
);
```

Output:

```
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
{ "_id" : ObjectId("674590dbf95e93b5b2ea5c1b"), "name" : "NKV", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("674590dbf95e93b5b2ea5c1c"), "name" : "Prathibha", "age" : 21, "dept" : "cs" }
{ "_id" : ObjectId("674590dbf95e93b5b2ea5c1d"), "name" : "Hadi", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("674590dbf95e93b5b2ea5c1e"), "name" : "Sabari", "age" : 18, "dept" : "cs" }
{ "_id" : ObjectId("674590dbf95e93b5b2ea5c1f"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

Updating Multiple Fields:

```
db.College.updateOne(
    { name: "Sabari" },
    { $set: { age: 19, dept: "math" } }
);
```

Output:

```
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
{ "_id" : ObjectId("67459189ec67c9a07b4c74f0"), "name" : "NKV", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("67459189ec67c9a07b4c74f1"), "name" : "Prathibha", "age" : 21, "dept" : "cs" }
{ "_id" : ObjectId("67459189ec67c9a07b4c74f2"), "name" : "Hadi", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("67459189ec67c9a07b4c74f3"), "name" : "Sabari", "age" : 19, "dept" : "math" }
{ "_id" : ObjectId("67459189ec67c9a07b4c74f4"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

Function to delete one field using deleteOne():

```
db.College.deleteOne({ name: "Hadi" });
```

Output:

```
{ "_id" : ObjectId("674591f0f3604c2ca1006ad0"), "name" : "NKV", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("674591f0f3604c2ca1006ad1"), "name" : "Prathibha", "age" : 21, "dept" : "cs" }
{ "_id" : ObjectId("674591f0f3604c2ca1006ad3"), "name" : "Sabari", "age" : 19, "dept" : "math" }
{ "_id" : ObjectId("674591f0f3604c2ca1006ad4"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

Function to delete the entire dept using deleteMany():

```
db.College.deleteMany({ dept: "cs" });
```

Output:

```
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
{ "acknowledged" : true, "deletedCount" : 1 }
{ "acknowledged" : true, "deletedCount" : 3 }
{ "_id" : ObjectId("67459250d78f1437f0c102e5"), "name" : "Sabari", "age" : 19, "dept" : "math" }
```

Implementing the GreaterThan function:

```
db.College.find({ age: { $gt: 19 } });
```

Output:

```
{ "_id" : ObjectId("6745958a364be2b3984bbbbd"), "name" : "Prathibha", "age" : 20, "dept" : "cs" }
```

Implementing LessThan Function:

```
db.College.find({ age: { $lt: 19 } });
```

Output:

```
{ "_id" : ObjectId("674595e557259cec29ca5bc5"), "name" : "Sabari", "age" : 18, "dept" : "cs" }
```

Implementation of AND function:

```
db.College.find({
    $and: [
        { age: { $gt: 18 } },
        { dept: "cs" }
    ]
});
```

Output:

```
{ "_id" : ObjectId("6745965ab8fb25afb5d69588"), "name" : "Prathibha", "age" : 20, "dept" : "cs" }
{ "_id" : ObjectId("6745965ab8fb25afb5d69589"), "name" : "Hadi", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("6745965ab8fb25afb5d6958b"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

Implementation of OR function:

```
db.College.find({
    $or: [
        { dept: "cs" },
        { age: { $gt: 19 } }
    ]
});
```

Output:

```
{ "_id" : ObjectId("674596c51aab191cb9735224"), "name" : "Prathibha", "age" : 20, "dept" : "cs" }
{ "_id" : ObjectId("674596c51aab191cb9735225"), "name" : "Hadi", "age" : 19, "dept" : "cs" }
{ "_id" : ObjectId("674596c51aab191cb9735226"), "name" : "Sabari", "age" : 18, "dept" : "cs" }
{ "_id" : ObjectId("674596c51aab191cb9735227"), "name" : "Hiba", "age" : 19, "dept" : "cs" }
```

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