TANMOY DEBNATH; USN – 1BM17CS113

1. Create

```
> use company
switched to db company
> db.createCollection("Employee")
{ "ok" : 1 }
> db.createCollection("Department")
{ "ok" : 1 }
```

2. Insert into EMPLOYEE

```
> //Insert using 3 methods into EMPLOYEE
> db.Employee.insert({_id: 1,name: "Tanmoy", age: 25, salary: 120000, position: "CEO"})
WriteResult({ "nInserted" : 1 })
> db.Employee.update({_id: 2,name: "Michael", age: 26, salary: 580000},{$set:{position: "CFO"}},{upsert:true})
WriteResult({ "nMatched" : 0, "nUpserted" : 1, "nModified" : 0, "_id" : 2 })
> db.Employee.save({_id: 3,name: "Jim", age: 30, salary: 500000, position: "Junior Associate"})
WriteResult({ "nMatched" : 0, "nUpserted" : 1, "nModified" : 0, "_id" : 3 })
> db.Employee.insert({_id: 4,name: "William", age: 25, salary: 520000, position: "CFO"})
WriteResult({ "nInserted" : 1 })
> db.Employee.insert({_id: 5,name: "Mark", age: 25, salary: 920000, position: "COO"})
WriteResult({ "nInserted" : 1 })
```

3. Insert into DEPARTMENT

```
> //Insert using 3 methods into DEPARTMENT
> db.Department.insert({_id:1,Name:"CSE",NoOfEmp:200,HOD:"Tanmoy"})
WriteResult({ "nInserted" : 1 })
> db.Department.update({_id:2,Name:"ISE",NoOfEmp:100},{$set:{HOD:"Bob"}},{upsert:true})
WriteResult({ "nMatched" : 0, "nUpserted" : 1, "nModified" : 0, "_id" : 2 })
> db.Department.save({_id:3,Name:"ECE",NoOfEmp:300,HOD:"Tom"})
WriteResult({ "nMatched" : 0, "nUpserted" : 1, "nModified" : 0, "_id" : 3 })
> db.Department.insert({_id:4,Name:"EEE",NoOfEmp:200,HOD:"John"})
WriteResult({ "nInserted" : 1 })
> db.Department.insert({_id:5, Name:"MECH",NoOfEmp:400,HOD:"Sean"})
WriteResult({ "nInserted" : 1 })
```

4. Update EMPLOYEE with another field

```
> //update to add another field to Employee collection
> db.Employee.update({_id:1},{$set:{DeptNum:1002}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Employee.update({_id:2},{$set:{DeptNum:1007}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Employee.update({_id:3},{$set:{DeptNum:1004}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Employee.update({_id:4},{$set:{DeptNum:1010}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Employee.update({_id:5},{$set:{DeptNum:1005}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

5. Remove from EMPLOYEE

```
> //remove a field from employee collection
> db.Employee.update({_id:3},{$unset:{age:30}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

6. FIND all in EMPLOYEE

```
> //find all documents in Employee
> db.Employee.find()
{ "_id" : 1, "name" : "Tanmoy", "age" : 25, "salary" : 120000, "position" : "CEO", "DeptNum" : 1002 }
{ "_id" : 2, "age" : 26, "name" : "Michael", "salary" : 580000, "position" : "CFO", "DeptNum" : 1007 }
{ "_id" : 3, "name" : "Jim", "salary" : 500000, "position" : "Junior Associate", "DeptNum" : 1004 }
{ "_id" : 4, "name" : "William", "age" : 25, "salary" : 520000, "position" : "CFO", "DeptNum" : 1010 }
{ "_id" : 5, "name" : "Mark", "age" : 25, "salary" : 920000, "position" : "COO", "DeptNum" : 1005 }
>
```

7. FIND all in DEPARTMENT

```
> //find all documents in Department
> db.Department.find()
{ "_id" : 1, "Name" : "CSE", "NoOfEmp" : 200, "HOD" : "Tanmoy" }
{ "_id" : 2, "Name" : "ISE", "NoOfEmp" : 100, "HOD" : "Bob" }
{ "_id" : 3, "Name" : "ECE", "NoOfEmp" : 300, "HOD" : "Tom" }
{ "_id" : 4, "Name" : "EEE", "NoOfEmp" : 200, "HOD" : "John" }
{ "_id" : 5, "Name" : "MECH", "NoOfEmp" : 400, "HOD" : "Sean" }
>
```

8. SELECT emp name and dept num where dept num is between 1001 and 1005

```
> //select emp name and dept num where dept num is between 1001 and 1005
> db.Employee.find({DeptNum: {$gt : 1000, $lt : 1006}},{name:1,DeptNum:1})
{ "_id" : 1, "name" : "Tanmoy", "DeptNum" : 1002 }
{ "_id" : 3, "name" : "Jim", "DeptNum" : 1004 }
{ "_id" : 5, "name" : "Mark", "DeptNum" : 1005 }
```

9. Find all employees with age greater than 25

```
> //find all employees with age greater than 25
> db.Employee.find({age:{$gt:25}})
{ "_id" : 2, "age" : 26, "name" : "Michael", "salary" : 580000, "position" : "CFO", "DeptNum" : 1007 }
```

10. Find names of all employees with name starting with T

```
> //find names of all employees with name starting with T
> db.Employee.find({name:/^T/})
{ "_id" : 1, "name" : "Tanmoy", "age" : 25, "salary" : 120000, "position" : "CEO", "DeptNum" : 1002 }
```