

## Lab 2 - 1BM17CS086

1. Create Company database with following collections

1. Employee
2. Department

```
> use Company;
< 'switched to db Company'
> db.createCollection("Employee");
< { ok: 1 }
> db.createCollection("Department");
< { ok: 1 }
```

Perform following MongoDB Operations

1. Insert at least five documents in each collection using all three methods of insertion.{ Show update method using upsert set to true and set to false}

```
> db.Employee.insert({name: "Michael Gibbs", age: 32, departmentNumber: 1431});
< { acknowledged: 1,
  insertedIds:
    { '0':
      { _bsontype: 'ObjectID',
        id: <Buffer 5f 75 a0 90 23 9d eb 0f 9c 8d be 66> } } }
> db.Employee.update({name: "Michael Gibbs"}, {$set: {age: 42}}, {upsert: false});
< { acknowledged: 1,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0 }
> db.Employee.update({name: "Clinton Baptista", }, {$set: {age: 42, departmentNumber: 3512}}, {upsert: true});
< { acknowledged: 1,
  insertedId:
    { index: 0,
      _id:
        { _bsontype: 'ObjectID',
          id: <Buffer 5f 75 a0 ab 15 25 ba 5a fd f7 a5 8d> } },
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 1 }
> db.Employee.save({name: "Nicoli Smith", age: 25, departmentNumber: 1431});
< { result:
  { n: 1,
    opTime:
```

2. Update "Employee" collection to add new field to an existing document .

```
> db.Employee.update({name: "Bob Marley"}, {$set: {age: 37}});  
< { acknowledged: 1,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0 }
```

3. Remove a field from an existing document

```
> db.Employee.update({name: "Bob Marley"}, {$unset: {age: 32}});  
< { acknowledged: 1,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0 }
```

4. Select all documents from both collections.

```
> db.Employee.find();
< { _id: ObjectID("5f75a090239deb0f9c8dbe66"),
  name: 'Michael Gibbs',
  age: 42,
  departmentNumber: 1431 }
{ _id: ObjectID("5f75a0ab1525ba5afdf7a58d"),
  name: 'Clinton Baptista',
  age: 42,
  departmentNumber: 3512 }
{ _id: ObjectID("5f75a0b2239deb0f9c8dbe67"),
  name: 'Nicoli Smith',
  age: 25,
  departmentNumber: 1431 }
{ _id: ObjectID("5f75a0fb239deb0f9c8dbe68"),
  name: 'Andrew Johnson',
  age: 36,
  departmentNumber: 1002 }
{ _id: ObjectID("5f75a11a239deb0f9c8dbe69"),
  name: 'Allen Marx',
  age: 34,
  departmentNumber: 1003 }
{ _id: ObjectID("5f75a219239deb0f9c8dbe6b"),
  name: 'Bob Marley',
  departmentNumber: 1003,
  age: 37 }
```

```
> db.Department.find();
< { _id: ObjectID("5f75a293239deb0f9c8dbe6c"),
  number: 1001,
  name: 'Engineering' }
{ _id: ObjectID("5f75a2a0239deb0f9c8dbe6d"),
  number: 1002,
  name: 'Sales and Marketing' }
{ _id: ObjectID("5f75a2ab239deb0f9c8dbe6e"),
  number: 1003,
  name: 'Human Resources' }
{ _id: ObjectID("5f75a2b9239deb0f9c8dbe6f"),
  number: 1004,
  name: 'Information Technology' }
{ _id: ObjectID("5f75a2c7239deb0f9c8dbe70"),
  number: 1005,
  name: 'Logistics' }
```

5. Select only employee name and department number whose department number falls between 1001 to 1005

```
> db.Employee.find({departmentNumber: {$gte: 1001, $lte: 1005}}, {name: 1, departmentNumber: 1});
< { _id: ObjectID("5f75a0fb239deb0f9c8dbe68"),
  name: 'Andrew Johnson',
  departmentNumber: 1002 }
{ _id: ObjectID("5f75a11a239deb0f9c8dbe69"),
  name: 'Allen Marx',
  departmentNumber: 1003 }
{ _id: ObjectID("5f75a219239deb0f9c8dbe6b"),
  name: 'Bob Marley',
  departmentNumber: 1003 }
```

6. Select employee documents whose name begins with 'A'

```
> db.Employee.find({name: /^A/});
< { _id: ObjectID("5f75a0fb239deb0f9c8dbe68"),
  name: 'Andrew Johnson',
  age: 36,
  departmentNumber: 1002 }
{ _id: ObjectID("5f75a11a239deb0f9c8dbe69"),
  name: 'Allen Marx',
  age: 34,
  departmentNumber: 1003 }
```

7. Select employee documents whose age is greater than 30

```
> db.Employee.find({age: {$gt: 30}});
< { _id: ObjectID("5f75a090239deb0f9c8dbe66"),
  name: 'Michael Gibbs',
  age: 42,
  departmentNumber: 1431 }
{ _id: ObjectID("5f75a0ab1525ba5afdf7a58d"),
  name: 'Clinton Baptista',
  age: 42,
  departmentNumber: 3512 }
{ _id: ObjectID("5f75a0fb239deb0f9c8dbe68"),
  name: 'Andrew Johnson',
  age: 36,
  departmentNumber: 1002 }
{ _id: ObjectID("5f75a11a239deb0f9c8dbe69"),
  name: 'Allen Marx',
  age: 34,
  departmentNumber: 1003 }
{ _id: ObjectID("5f75a219239deb0f9c8dbe6b"),
  name: 'Bob Marley',
  departmentNumber: 1003,
  age: 37 }
,
```