

# University of Colombo School of Computing

## SCS 2209- Database II

### Labsheet 06

21000034

#### Exercise 01

1. Create a new database named "ecommerce".
2. Create a collection named "products" inside the above database.

```
test> use ecommerce
switched to db ecommerce
ecommerce> db.createCollection("products")
```

3. Insert a new document into the "products" collection with the details of the following table

```
ecommerce> db.products.insertMany([{"Product_name":"Tablet",Unit_price:120000,Quantity:20},{Product_name:"Smart phone",Unit_price:80000,Quantity:10},{Product_name:"Laptop",Unit_price:250000,Quantity:14},{Product_name:"Web Camera",Unit_price:75000,Quantity:30}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("659cb818609fdaf8589f17d7"),
    '1': ObjectId("659cb818609fdaf8589f17d8"),
    '2': ObjectId("659cb818609fdaf8589f17d9"),
    '3': ObjectId("659cb818609fdaf8589f17da")
  }
}
```

4. Retrieve and display all documents from the "products" collection.

```
ecommerce> db.products.find().pretty()
[
  {
    _id: ObjectId("659cb818609fdaf8589f17d7"),
    Product_name: 'Tablet',
    Unit_price: 120000,
    Quantity: 20
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17d9"),
    Product_name: 'Smart phone',
    Unit_price: 80000,
    Quantity: 10
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17d8"),
    Product_name: 'Laptop',
    Unit_price: 250000,
    Quantity: 14
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17da"),
    Product_name: 'Web Camera',
    Unit_price: 75000,
    Quantity: 30
  }
]
```

5. Update the quantity of the "Tablet" in the "products" collection to 45.

```
ecommerce> db.products.updateOne({Product_name:"Tablet"},{$set:{Quantity:45}})
{
  acknowledged: true,
  insertedId: null,
  modifiedCount: 1,
  upsertedCount: 0
}
ecommerce> db.products.find().pretty()
[
  {
    _id: ObjectId("659cb818609fdaf8589f17d7"),
    Product_name: 'Tablet',
    Unit_price: 120000,
    Quantity: 45
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17d8"),
    Product_name: 'Smart phone',
    Unit_price: 80000,
    Quantity: 10
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17d9"),
    Product_name: 'Laptop',
    Unit_price: 250000,
    Quantity: 14
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17da"),
    Product_name: 'Web Camera',
    Unit_price: 75000,
    Quantity: 30
  }
]
```

6.Delete the document from the "products" collection where the product is a "Tablet".

```
ecommerce> db.products.deleteOne({Product_name:"Tablet"})
{ acknowledged: true, deletedCount: 1 }
ecommerce> db.products.find().pretty()
[
  {
    _id: ObjectId("659cb818609fdaf8589f17d8"),
    Product_name: 'Smart phone',
    Unit_price: 80000,
    Quantity: 10
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17d9"),
    Product_name: 'Laptop',
    Unit_price: 250000,
    Quantity: 14
  },
  {
    _id: ObjectId("659cb818609fdaf8589f17da"),
    Product_name: 'Web Camera',
    Unit_price: 75000,
    Quantity: 30
  }
]
ecommerce> _
```

## Exercise 02:

1. Create a new database named "xyz\_institute"

```
test> use xyz_institute
switched to db xyz_institute
xyz_institute> db.createCollection("courses")
{ ok: 1 }
```

2. Create a new collection named "courses" inside the "xyz\_institute" database and insert a new document into the "courses" collection with the following details of a course:

- CourseName: "Computer Science 101"
- Instructor: "Professor Smith"
- Schedule: "Monday and Wednesday, 9:00 AM - 10:30 AM"
- Credits: 3

a. Retrieve and display all documents from the "courses" collection.

```

xyz_institute> db.courses.insertOne({Course_name:"Computer Science 101",Instructor:"Professor Smith",Schedule:"Monday and Wednesday, 9:00 AM - 10:30 AM",Credits:3});
{
  acknowledged: true,
  insertedId: ObjectId("659cbcd5c610de0dc5ac7e7c")
}
xyz_institute> db.courses.find().pretty()
[
  {
    _id: ObjectId("659cbcd5c610de0dc5ac7e7c"),
    Course_name: 'Computer Science 101',
    Instructor: 'Professor Smith',
    Schedule: 'Monday and Wednesday, 9:00 AM - 10:30 AM',
    Credits: 3
  }
]

```

b. Update the schedule of the course with CourseName "Computer Science 101" in the "courses" collection to "Tuesday and Thursday, 2:00 PM - 3:30 PM".

```

xyz_institute> db.courses.updateOne({Course_name:"Computer Science 101"},{$set:{Schedule:"Tuesday and Thursday, 2:00 PM - 3:30 PM"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}

```

c. Delete the document from the "courses" collection where the CourseName is "Computer Science 101".

```

xyz_institute> db.courses.deleteOne({Course_name:"Computer Science 101"})
{ acknowledged: true, deletedCount: 0 }

```

3. Create a new collection named "students" and Insert a new document into the "students" collection with the details of a student:

- StudentName: "Alice Johnson"
- Age: 20
- Major: "Physics"

```

test> use xyz_institute
switched to db xyz_institute
xyz_institute> db.createCollection("students")
{ ok: 1 }

```

```

xyz_institute> db.students.insertOne({StudentName:"Alice Johnson",Age:20,Major:"Physics"})
{
  acknowledged: true,
  insertedId: ObjectId("659cc01e77e6bea3c6651e0f")
}
xyz_institute> db.students.find().pretty()
[
  {
    _id: ObjectId("659cc01e77e6bea3c6651e0f"),
    StudentName: 'Alice Johnson',
    Age: 20,
    Major: 'Physics'
  }
]

```

a. Update the major of the student with StudentName "Alice Johnson" in the "students" collection to "Computer Science".

```

xyz_institute> db.students.updateOne({StudentName:"Alice Johnson"},{$set:{StudentName:"Computer Science"}})
{
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
xyz_institute> db.students.find().pretty()
[
  {
    _id: ObjectId("659cc01e77e6bea3c6651e0f"),
    StudentName: 'Computer Science',
    Age: 20,
    Major: 'Physics'
  }
]

```

b. Delete the document from the "students" collection where the StudentName is "Alice Johnson".

```

xyz_institute> db.students.deleteOne({StudentName:"Alice Johnson"})
{ acknowledged: true, deletedCount: 0 }

```

4. Show all the collections in "xyz\_institute".

5. Delete the collection named "courses".

```

{ acknowledged: true, deletedCount: 0 }
xyz_institute> show collections
courses
students
xyz_institute> db.courses.drop();
true

```