Name: Shubham Rajendra Chemate

Roll Number: 31118

Subject: DBMS Lab – Assignment 4 (Group B) – Database Connectivity with Frontend Language

**Code:**

**import** com.mongodb.client.FindIterable;

**import** com.mongodb.client.MongoCollection;

**import** com.mongodb.client.MongoDatabase;

**import** com.mongodb.client.model.Filters;

**import** com.mongodb.client.model.Updates;

**import** java.util.Iterator;

**import** org.bson.Document;

**import** com.mongodb.MongoClient;

**import** java.util.concurrent.ThreadLocalRandom;

**public** **class** MongoDBConnectivity {

@SuppressWarnings({ "unused", "resource" })

**public** **static** **void** main(String args[]) **throws** Exception {

System.***out***.println("Establishing Connection to the database...\n");

MongoClient mongo = **new** MongoClient("localhost", 27017);

MongoDatabase database = mongo.getDatabase("b04\_db");

System.***out***.println("Conncection Established");

MongoCollection<Document> collection = database.getCollection("students");

String[] nameOfStudents = { "Tony", "Steve", "Stephen", "Loki" };

String[] subjects = { "OOP", "DSA", "DBMS", "CN", "OS" };

// insertion

{

**int** roll\_num = 1;

**for** (**int** i = 0; i < nameOfStudents.length; i++)

**for** (**int** j = 0; j < subjects.length; j++) {

**int** marks = ThreadLocalRandom.*current*().nextInt(70, 100 + 1);

Document doc = **new** Document("\_id", roll\_num).append("name", nameOfStudents[i])

.append("subject", subjects[j]).append("marks", marks);

collection.insertOne(doc);

roll\_num++;

}

System.***out***.println(roll\_num-1 + " records are successfully inserted.\n");

}

// read

{

System.***out***.println("Reading records from collection:");

FindIterable<Document> iterDoc = collection.find();

Iterator<Document> it = iterDoc.iterator();

**if** (it.hasNext())

**while** (it.hasNext())

System.***out***.println(it.next());

**else**

System.***out***.println("No records found");

System.***out***.println("Record reading done.\n");

}

// find details of student with given roll number

{

**int** roll\_num = 8;

System.***out***.println("Getting details of student having roll number " + roll\_num);

FindIterable<Document> iterDoc = collection.find(**new** Document("\_id", roll\_num));

Iterator<Document> it = iterDoc.iterator();

**if** (it.hasNext()) {

**while** (it.hasNext()) {

System.***out***.println(it.next());

}

} **else** {

System.***out***.println("Student record not found.");

}

System.***out***.println("Reading done.\n");

}

// update

{

**int** roll\_num = 2;

System.***out***.println("Updating marks of student having roll number " + roll\_num);

collection.updateOne(Filters.*eq*("\_id", roll\_num), Updates.*set*("marks", 100));

FindIterable<Document> iterDoc = collection.find(**new** Document("\_id", roll\_num));

Iterator<Document> it = iterDoc.iterator();

**if** (it.hasNext()) {

System.***out***.println("Details of student after update operation:");

**while** (it.hasNext()) {

System.***out***.println(it.next());

}

} **else** {

System.***out***.println("Student record not found.");

}

System.***out***.println("Updata done.\n");

}

// delete

{

**int** roll\_num = 2;

System.***out***.println("Deleting record of student having roll number " + roll\_num);

FindIterable<Document> iterDoc = collection.find(**new** Document("\_id", roll\_num));

Iterator<Document> it = iterDoc.iterator();

**if** (it.hasNext()) {

collection.deleteOne(Filters.*eq*("\_id", roll\_num));

System.***out***.println("Student Record Deleted.");

} **else** {

System.***out***.println("No such record is found.");

}

System.***out***.println("Delete operation done.\n");

}

}

}

**Ouptut:**









