import com.mongodb.client.AggregateIterable;

import com.mongodb.client.FindIterable;

import com.mongodb.client.MongoClient;

import com.mongodb.client.MongoClients;

import com.mongodb.client.MongoCollection;

import com.mongodb.client.MongoDatabase;

import org.bson.Document;

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

import static com.mongodb.client.model.Aggregates.\*;

import static com.mongodb.client.model.Accumulators.\*;

import java.util.Arrays;

public class MongoDBExample {

public static void main(String[] args) {

try (MongoClient client = MongoClients.create("mongodb://localhost:27017")) {

MongoDatabase db = client.getDatabase("yourDatabaseName");

MongoCollection<Document> products = db.getCollection("products");

findProductsInRange(products, 700, 900);

computeAveragePrice(products);

}

}

private static void findProductsInRange(MongoCollection<Document> coll, double min, double max) {

System.out.println("Products with price between " + min + " and " + max + ":");

FindIterable<Document> results = coll.find(and(gte("price", min), lte("price", max)));

for (Document doc : results) {

System.out.println(doc.toJson());

}

System.out.println();

}

private static void computeAveragePrice(MongoCollection<Document> coll) {

AggregateIterable<Document> agg = coll.aggregate(Arrays.asList(

group(null, avg("averagePrice", "$price"))

));

Document result = agg.first();

if (result != null) {

System.out.println("Average price of all products: " + result.getDouble("averagePrice"));

} else {

System.out.println("No products found to compute average.");

}

}

}

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import com.mongodb.client.MongoClient;

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import org.bson.Document;

import static com.mongodb.client.model.Aggregates.\*;

import static com.mongodb.client.model.Accumulators.\*;

import static com.mongodb.client.model.Sorts.\*;

import java.util.Arrays;

public class SalesAnalytics {

public static void main(String[] args) {

try (MongoClient client = MongoClients.create("mongodb://localhost:27017")) {

MongoDatabase db = client.getDatabase("yourDatabaseName");

MongoCollection<Document> sales = db.getCollection("sales");

findMostFrequentItem(sales);

}

}

private static void findMostFrequentItem(MongoCollection<Document> coll) {

AggregateIterable<Document> agg = coll.aggregate(Arrays.asList(

group("$item", sum("count", 1)),

sort(descending("count")),

limit(1)

));

Document top = agg.first();

if (top != null) {

String item = top.getString("\_id");

int occurrences = top.getInteger("count");

System.out.printf("Most frequent product: %s (occurred %d times)%n", item, occurrences);

} else {

System.out.println("No sales data found.");

}

}

}