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Project : Distributed Systems & Cloud Databases

Query-01:

Show the complete product inventory with common attributes.

The screenshot shows the IntelliJ IDEA interface with the project 'assignment1' open. The 'Driver.java' file is the active editor, displaying Java code for interacting with MySQL and MongoDB databases. The code includes imports for java.sql.* and javax.*. It defines a 'Driver' class with a main method that connects to a MySQL database and a MongoDB collection named 'products'. The output window below shows the results of running the application, displaying a list of products from both databases. The terminal output includes connection details and a warning about SLF4J not being found on the classpath.

```
import java.sql.*;
import javax.*;

public class Driver {

    /**
     * Driver class main method
     * @param args
     * @throws SQLException
     */
    public static void main(String[] args) throws SQLException {
        // MySQL credentials
        String sqlurl = "jdbc:mysql://pgc-sd-bigdata.cyaielc9bmnf.us-east-1.rds.amazonaws.com:3306/pgcdata";
        String sqluser = "student";
        String sqlpassword = "STUDENT123";

        // MongoDB Configurations
        String mongoDBurl = "mongodb://ec2-54-89-205-236.compute-1.amazonaws.com:27017";
        String mongoDB = "Assignment";
        String mongoDBCollection = "products";

        // Connection Default Value Initialization
        Connection conConnection = null;
    }
}

----- Displaying All Products -----
MongoDbId : 605fb1977eb205cf8c676c2 | ProductId : P01EM100 | Category : Mobiles | Manufacturer : Apple | Title : iPhone SE (2020)
MongoDbId : 605fb1977eb205cf8c676c3 | ProductId : P01EM101 | Category : Mobiles | Manufacturer : Apple | Title : iPhone XS Max
MongoDbId : 605fb1977eb205cf8c676c4 | ProductId : P01EM102 | Category : Mobiles | Manufacturer : Google | Title : Google Pixel 4 XL
MongoDbId : 605fb1977eb205cf8c676c5 | ProductId : P01EM103 | Category : Mobiles | Manufacturer : Nokia | Title : Nokia 8.1 (Nokia X7)
MongoDbId : 605fb1977eb205cf8c676c6 | ProductId : P01EM104 | Category : Mobiles | Manufacturer : Samsung | Title : Samsung Galaxy S10+
MongoDbId : 605fb1977eb205cf8c676c7 | ProductId : P01EC111 | Category : Cameras | Manufacturer : Canon | Title : Canon PowerShot SX430
MongoDbId : 605fb1977eb205cf8c676c8 | ProductId : P01EC112 | Category : Cameras | Manufacturer : Nikon | Title : Nikon D5600
MongoDbId : 605fb1977eb205cf8c676c9 | ProductId : P01EC113 | Category : Cameras | Manufacturer : Panasonic | Title : Panasonic LUMIX G7
MongoDbId : 605fb1977eb205cf8c676ca | ProductId : P01EC114 | Category : Cameras | Manufacturer : Canon | Title : Canon EOS 1500D
MongoDbId : 605fb1977eb205cf8c676cb | ProductId : P01EC115 | Category : Cameras | Manufacturer : Sony | Title : Sony Alpha ILCE 6100L
MongoDbId : 605fb1977eb205cf8c676cc | ProductId : P01EH701 | Category : Headphones | Manufacturer : Sony | Title : Sony WH-XB900N
MongoDbId : 605fb1977eb205cf8c676cd | ProductId : P01EH702 | Category : Headphones | Manufacturer : Sennheiser | Title : Sennheiser HD 280 PRO
MongoDbId : 605fb1977eb205cf8c676ce | ProductId : P01EH703 | Category : Headphones | Manufacturer : JBL | Title : JBL T460BT Extra Bass
MongoDbId : 605fb1978eb205cf8c676cf | ProductId : P01EH704 | Category : Headphones | Manufacturer : Skulcandy | Title : Skulcandy Crusher Evo
MongoDbId : 605fb1987eb205cf8c676d0 | ProductId : P01EH705 | Category : Headphones | Manufacturer : boAt | Title : boAt Rockerz 400
```

(Image 1: Query-01)

Query-02:

Get the information about the first five products under the category 'Mobile'

```

    // MongoDB Configurations
    String mongoDBUrl = "mongodb://ec2-54-89-205-236.compute-1.amazonaws.com:27017";
    String mongoDBDB = "Assignment";
    String mongoDBCollection = "products";

    // Connection Default Value Initialization
    Connection sqlConnection = null;
    MongoClient mongoClient = null;

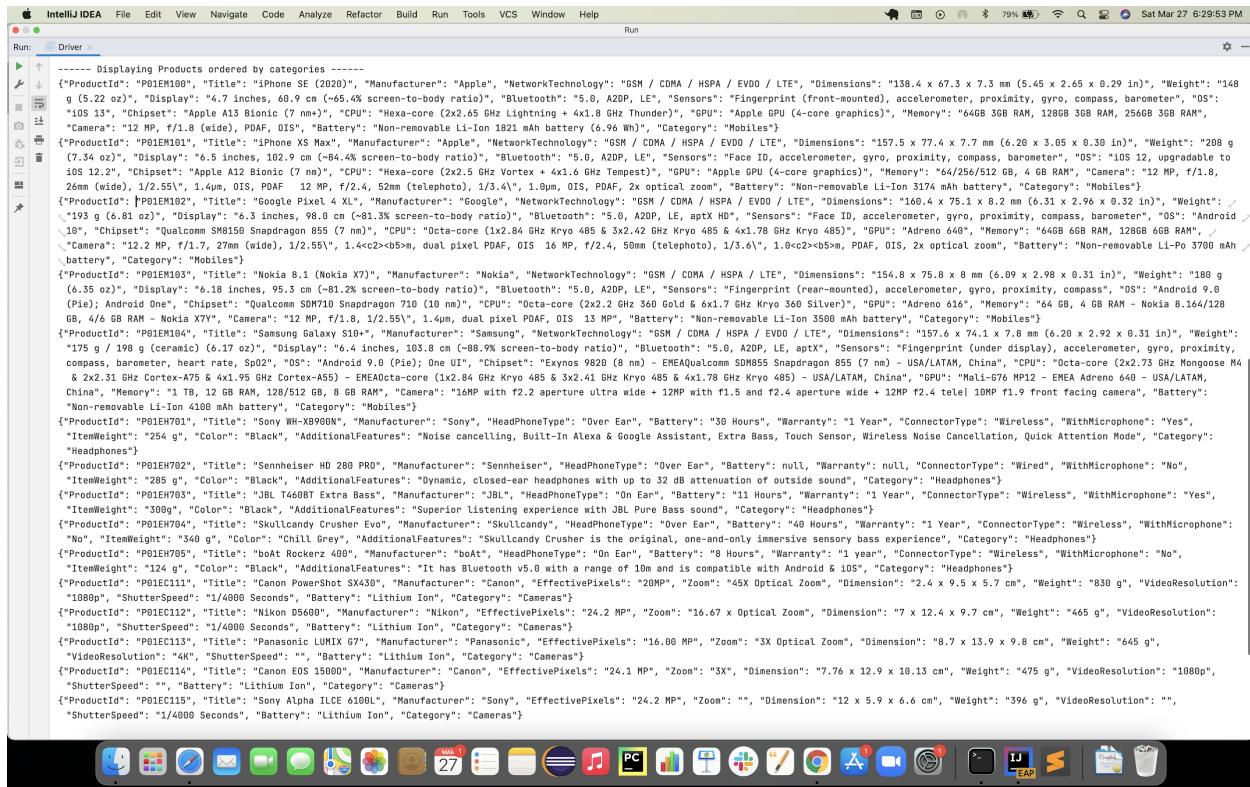
    try {
        // Creating database connections
        ----- Displaying Top 5 Mobiles -----
        {"_id": {"$oid": "605fb1977ebe205fc8c676c2"}, "ProductId": "P01EM100", "Title": "iPhone SE (2020)", "Manufacturer": "Apple", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "138.4 x 67.3 x 7.3 mm (5.45 x 2.65 x 0.29 in)", "Weight": "148 g (52.22 oz)", "Display": "4.7 inches, 60.9 cm (~65.4% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Fingerprint (front-mounted), Accelerometer, proximity, gyro, compass, barometer", "OS": "iOS 13", "Chipset": "Apple A13 Bionic (7 nm)", "CPU": "Hexa-core (2x2.65 GHz Lightning + 4x1.8 GHz Thunder)", "GPU": "Apple GPU (4-core graphics)", "Memory": "64GB 3GB RAM, 128GB 3GB RAM, 256GB 3GB RAM", "Camera": "12 MP, f/1.8 (wide), PDAF, OIS", "Battery": "Non-removable Li-Ion 1821 mAh battery (6.96 Wh)", "Category": "Mobiles"}
        {"_id": {"$oid": "605fb1977ebe205fc8c676c3"}, "ProductId": "P01EM101", "Title": "iPhone XS Max", "Manufacturer": "Apple", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "157.5 x 77.4 x 7.7 mm (6.20 x 3.05 x 0.30 in)", "Weight": "208 g (7.34 oz)", "Display": "6.5 inches, 102.9 cm (~84.4% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Face ID, accelerometer, gyro, proximity, compass, barometer", "OS": "iOS 12, upgradable to iOS 12.2", "Chipset": "Apple A12 Bionic (7 nm)", "CPU": "Hexa-core (2x2.6 GHz Vortex + 4x1.6 GHz Tempest)", "GPU": "Apple GPU (4-core graphics)", "Memory": "64/256/512 GB, 4 GB RAM", "Camera": "12 MP, f/1.8, 26mm (wide), 1/2.55\"", "1.4µm, OIS, PDAF 12 MP, f/2.4, 52mm (telephoto), 1/3.4\"", "1.0µm, OIS, PDAF, 2x optical zoom", "Battery": "Non-removable Li-Ion 3274 mAh battery", "Category": "Mobiles"}
        {"_id": {"$oid": "605fb1977ebe205fc8c676c4"}, "ProductId": "P01EM102", "Title": "Google Pixel 4 XL", "Manufacturer": "Google", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "160.4 x 75.1 x 8.2 mm (6.31 x 2.96 x 0.32 in)", "Weight": "193 g (6.82 oz)", "Display": "6.3 inches, 98.0 cm (~81.3% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE, aptX HD", "Sensors": "Face ID, accelerometer, gyro, proximity, compass, barometer", "OS": "Android 10", "Chipset": "Qualcomm SM8150 Snapdragon 855 (7 nm)", "CPU": "Octa-core (1x2.84 GHz Kryo 485 & 3x2.42 GHz Kryo 485 & 4x1.78 GHz Kryo 485)", "GPU": "Adreno 640", "Memory": "64GB 4GB RAM, 128GB 4GB RAM", "Camera": "12.2 MP, f/1.7, 27mm (wide), 1.4-c2<>b5m, dual pixel PDAF, OIS 16 MP, f/2.4, 50mm (telephoto), 1/3.6\"", "1.0<>c2<>b5m, PDAF, OIS, 2x optical zoom", "Battery": "Non-removable Li-Po 3700 mAh battery", "Category": "Mobiles"}
        {"_id": {"$oid": "605fb1977ebe205fc8c676c5"}, "ProductId": "P01EM103", "Title": "Nokia 8.1 (Nokia X7)", "Manufacturer": "Nokia", "NetworkTechnology": "GSM / CDMA / HSPA / LTE", "Dimensions": "154.8 x 75.8 x 8 mm (6.09 x 2.99 x 0.31 in)", "Weight": "180 g (6.35 oz)", "Display": "6.18 inches, 95.3 cm (~81.2% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Fingerprint (rear-mounted)", "Accelerometer, gyro, proximity, compass", "OS": "Android 9.0 (Pie); Oreo One", "Chipset": "Qualcomm SDM710 Snapdragon 710 (10 nm)", "CPU": "Octa-core (2x2.2 GHz Kryo 360 Gold & 6x1.7 GHz Kryo 360 Silver)", "GPU": "Adreno 616", "Memory": "64 GB, 4 GB RAM - Nokia X7V", "Camera": "12 MP, f/1.8, 1/2.55\"", "1.4µm, dual pixel PDAF, OIS 13 MP", "Battery": "Non-removable Li-Ion 3500 mAh battery", "Category": "Mobiles"}
        {"_id": {"$oid": "605fb1977ebe205fc8c676c6"}, "ProductId": "P01EM104", "Title": "Samsung Galaxy S10+", "Manufacturer": "Samsung", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "157.6 x 74.1 x 7.8 mm (6.20 x 2.92 x 0.31 in)", "Weight": "175 g / 196 g (ceramic) (6.17 oz)", "Display": "6.4 inches, 103.8 cm (~88.9% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE, aptX", "Sensors": "Fingerprint (under display), accelerometer, gyro, proximity, compass, barometer, heart rate, SpO2", "OS": "Android 9.0 (Pie); One UI", "Chipset": "Exynos 9820 (8 nm) - EMEA Octa-core (1x2.84 GHz Kryo 485 & 3x2.41 GHz Kryo 485) - USA/LATAM, China", "CPU": "Octa-core (2x2.73 GHz Mongoose M4 & 2x2.31 GHz Cortex-A75 & 4x1.95 GHz Cortex-A55) - EMEA Octa-core (1x2.84 GHz Kryo 485 & 3x2.41 GHz Kryo 485) - USA/LATAM, China", "Memory": "1 TB, 12 GB RAM, 128/512 GB, 8 GB RAM", "Camera": "16MP with f2.2 aperture ultra wide + 12MP with f1.5 and f2.4 aperture wide + 12MP f2.4 telelens 10MP f1.9 front facing camera", "Battery": "Non-removable Li-Ion 4100 mAh battery", "Category": "Mobiles"}
    }

```

(Image 2: Query-02)

Query-03:

Get the products ordered by category without their auto-generated '_id' column in MongoDB



```
Run: Driver
----- Displaying Products ordered by categories -----
{"ProductId": "P01EM100", "Title": "iPhone SE (2020)", "Manufacturer": "Apple", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "138.4 x 67.3 x 7.3 mm (5.45 x 2.65 x 0.29 in)", "Weight": "148 g (5.22 oz)", "Display": "4.7 inches, 60.9 cm (~65.4% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Fingerprint (front-mounted), accelerometer, proximity, gyro, compass, barometer", "OS": "iOS 13", "Chipset": "Apple A13 Bionic (7 nm)", "CPU": "Hexa-core (2x2.65 GHz Lightning + 4x1.8 GHz Thunder)", "GPU": "Apple GPU (4-core graphics)", "Memory": "64GB 3GB RAM", "Camera": "12 MP, f/1.8 (wide), PDAF, OIS", "Battery": "Non-removable Li-Ion 1821 mAh battery (6.94 Wh)", "Category": "Mobiles"}
{"ProductId": "P01EM101", "Title": "iPhone XS Max", "Manufacturer": "Apple", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "157.5 x 77.4 x 7.7 mm (6.20 x 3.05 x 0.30 in)", "Weight": "208 g (7.34 oz)", "Display": "6.5 inches, 102.9 cm (~84.4% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Face ID, accelerometer, gyro, proximity, compass, barometer", "OS": "iOS 12.2", "Chipset": "Apple A12 Bionic (7 nm)", "CPU": "Hexa-core (2x2.5 GHz Vortex + 4x1.6 GHz Tempest)", "GPU": "Apple GPU (4-core graphics)", "Memory": "64/256/512 GB, 4 GB RAM", "Camera": "12 MP, f/1.8, 26mm (wide), 1/2.55", "Battery": "Non-removable Li-Ion 3174 mAh battery", "Category": "Mobiles"}
{"ProductId": "P01EM102", "Title": "Google Pixel 4 XL", "Manufacturer": "Google", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "160.4 x 75.1 x 8.2 mm (6.31 x 2.96 x 0.32 in)", "Weight": "193 g (6.81 oz)", "Display": "6.3 inches, 98.0 cm (~81.3% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE, aptX HD", "Sensors": "Face ID, accelerometer, gyro, proximity, compass, barometer", "OS": "Android 10", "Chipset": "Qualcomm SM8150 Snapdragon 855 (7 nm)", "CPU": "Octa-core (1x2.84 GHz Kryo 485 & 3x2.42 GHz Kryo 485 & 4x1.78 GHz Kryo 485)", "GPU": "Adreno 640", "Memory": "64GB 6GB RAM, 128GB 6GB RAM", "Camera": "12.2 MP, f/1.7, 27mm (wide), 1/2.55", "Battery": "Non-removable Li-Po 3780 mAh", "Category": "Mobiles"}
{"ProductId": "P01EM103", "Title": "Nokia 8.1 (Nokia X7)", "Manufacturer": "Nokia", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "154.8 x 75.8 x 8 mm (6.09 x 2.98 x 0.31 in)", "Weight": "180 g (6.35 oz)", "Display": "6.18 inches, 95.3 cm (~81.2% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE", "Sensors": "Fingerprint (rear-mounted), accelerometer, gyro, proximity, compass", "OS": "Android 9.0 (Pie); Android One", "Chipset": "Qualcomm SDM710 Snapdragon 710 (10 nm)", "CPU": "Octa-core (2x2.2 GHz Kryo 360 Gold & 6x1.7 GHz Kryo 360 Silver)", "GPU": "Adreno 616", "Memory": "64 GB, 4 GB RAM - Nokia 8.1/28 GB, 4/6 GB RAM - Nokia X7", "Camera": "12 MP, f/1.8, 1/2.55", "Battery": "Non-removable Li-Ion 3500 mAh battery", "Category": "Mobiles"}
{"ProductId": "P01EM104", "Title": "Samsung Galaxy S10+", "Manufacturer": "Samsung", "NetworkTechnology": "GSM / CDMA / HSPA / EVDO / LTE", "Dimensions": "157.6 x 74.1 x 7.8 mm (6.20 x 2.92 x 0.31 in)", "Weight": "175 g (6.17 oz)", "Display": "6.4 inches, 103.8 cm (~88.9% screen-to-body ratio)", "Bluetooth": "5.0, A2DP, LE, aptX", "Sensors": "Fingerprint (under display), accelerometer, gyro, proximity, compass, barometer", "OS": "Android 9.0 (Pie); Samsung One UI", "Chipset": "Exynos 9820 (8 nm) - EMEAQualcomm SDM855 Snapdragon 855 (7 nm) - USA/LATAM, China", "CPU": "Octa-core (2x2.73 GHz Mali-G76 Cortex-A55 & 2x2.31 GHz Cortex-A75 & 4x1.95 GHz Cortex-A55) - EMEAOcta-core (1x2.84 GHz Kryo 485 & 3x2.41 GHz Kryo 485 & 4x1.78 GHz Kryo 485) - USA/LATAM, China", "GPU": "Mali-G76 MP12 - EMEA Adreno 640 - USA/LATAM, China", "Memory": "1 TB, 12 GB RAM, 128/512 GB, 8 GB RAM", "Camera": "16MP with f/2.2 aperture ultra wide + 12MP with f1.5 and f2.4 aperture wide + 12MP f/2.4 tele | 10MP f/1.9 front facing camera", "Battery": "Non-removable Li-Ion 4100 mAh battery", "Category": "Mobiles"}
{"ProductId": "P01EM701", "Title": "Sony WH-XB900N", "Manufacturer": "Sony", "HeadPhoneType": "Over Ear", "Battery": "30 Hours", "Warranty": "1 Year", "ConnectorType": "Wireless", "WithMicrophone": "Yes", "ItemWeight": "254 g", "Color": "Black", "AdditionalFeatures": "Noise cancelling, Built-In Alexa & Google Assistant, Extra Bass, Touch Sensor, Wireless Noise Cancellation, Quick Attention Mode", "Category": "Headphones"}
{"ProductId": "P01EH702", "Title": "Sennheiser HD 280 PRO", "Manufacturer": "Sennheiser", "HeadPhoneType": "Over Ear", "Battery": null, "Warranty": null, "ConnectorType": "Wired", "WithMicrophone": "No", "ItemWeight": "285 g", "Color": "Black", "AdditionalFeatures": "Dynamic, closed-ear headphones with 32 dB attenuation of outside sound", "Category": "Headphones"}
{"ProductId": "P01EH703", "Title": "JBL T460BT Extra Bass", "Manufacturer": "JBL", "HeadPhoneType": "On Ear", "Battery": "11 Hours", "Warranty": "1 Year", "ConnectorType": "Wireless", "WithMicrophone": "Yes", "ItemWeight": "309g", "Color": "Black", "AdditionalFeatures": "Superior listening experience with JBL Pure Bass sound", "Category": "Headphones"}
{"ProductId": "P01EH704", "Title": "Skullcandy Crusher Evo", "Manufacturer": "Skullcandy", "HeadPhoneType": "Over Ear", "Battery": "40 Hours", "Warranty": "1 Year", "ConnectorType": "Wireless", "WithMicrophone": "No", "ItemWeight": "340 g", "Color": "Chill Grey", "AdditionalFeatures": "Skullcandy Crusher is the original, one-and-only immersive sensory bass experience", "Category": "Headphones"}
{"ProductId": "P01EH705", "Title": "boAt Rockerz 400", "Manufacturer": "boAt", "HeadPhoneType": "On Ear", "Battery": "8 Hours", "Warranty": "1 year", "ConnectorType": "Wireless", "WithMicrophone": "No", "ItemWeight": "124 g", "Color": "Black", "AdditionalFeatures": "It has Bluetooth v5.0 with a range of 10m and is compatible with Android & iOS", "Category": "Headphones"}
{"ProductId": "P01EC111", "Title": "Canon PowerShot SX430", "Manufacturer": "Canon", "EffectivePixels": "20MP", "Zoom": "45X Optical Zoom", "Dimension": "2.4 x 9.5 x 5.7 cm", "Weight": "830 g", "VideoResolution": "1080p", "ShutterSpeed": "1/4000 Seconds", "Battery": "Lithium Ion", "Category": "Cameras"}
{"ProductId": "P01EC112", "Title": "Nikon D5600", "Manufacturer": "Nikon", "EffectivePixels": "24.2 MP", "Zoom": "16.67 x Optical Zoom", "Dimension": "7 x 12.4 x 9.7 cm", "Weight": "465 g", "VideoResolution": "1080p", "ShutterSpeed": "1/4000 Seconds", "Battery": "Lithium Ion", "Category": "Cameras"}
{"ProductId": "P01EC113", "Title": "Panasonic LUMIX G7", "Manufacturer": "Panasonic", "EffectivePixels": "16.00 MP", "Zoom": "3X Optical Zoom", "Dimension": "8.7 x 13.9 x 9.8 cm", "Weight": "645 g", "VideoResolution": "4K", "ShutterSpeed": "", "Battery": "Lithium Ion", "Category": "Cameras"}
{"ProductId": "P01EC114", "Title": "Canon EOS 1500D", "Manufacturer": "Canon", "EffectivePixels": "24.1 MP", "Zoom": "3X", "Dimension": "7.76 x 12.9 x 10.13 cm", "Weight": "475 g", "VideoResolution": "1080p", "ShutterSpeed": "", "Battery": "Lithium Ion", "Category": "Cameras"}
{"ProductId": "P01EC115", "Title": "Sony Alpha ILCE 6100L", "Manufacturer": "Sony", "EffectivePixels": "24.2 MP", "Zoom": "", "Dimension": "12 x 5.9 x 6.6 cm", "Weight": "396 g", "VideoResolution": "", "ShutterSpeed": "1/4000 Seconds", "Battery": "Lithium Ion", "Category": "Cameras"}
```

(Image 3: Query-03)

Query-04:

Get the product count for every category

The screenshot shows the IntelliJ IDEA interface with the project 'assignment1' open. The code editor displays 'Driver.java' which contains Java code for connecting to MySQL and MongoDB and printing product counts by category. The run output window shows the results of the program execution.

```
Driver.java
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 java.sql.*;

public class Driver {

    /**
     * Driver class main method
     * @param args
     * @throws SQLException
     */
    public static void main(String[] args) throws SQLException {
        // MySQL credentials
        String sqlUrl = "jdbc:mysql://pgc-sd-bigdata.cyaielc9bmnf.us-east-1.rds.amazonaws.com:3306/pgcdata";
        String sqlUser = "student";
        String sqlPassword = "STUDENT123";

        // MongoDB Configurations
        String mongoUrl = "mongodb://ec2-54-89-205-236.compute-1.amazonaws.com:27017";
        String mongoDB = "Assignment";
        String mongoCollection = "products";

        // Connection Default Value Initialization
        Connection sqlConnection = null;
        MongoClient mongoClient = null;

        try {
            // Creating database connections

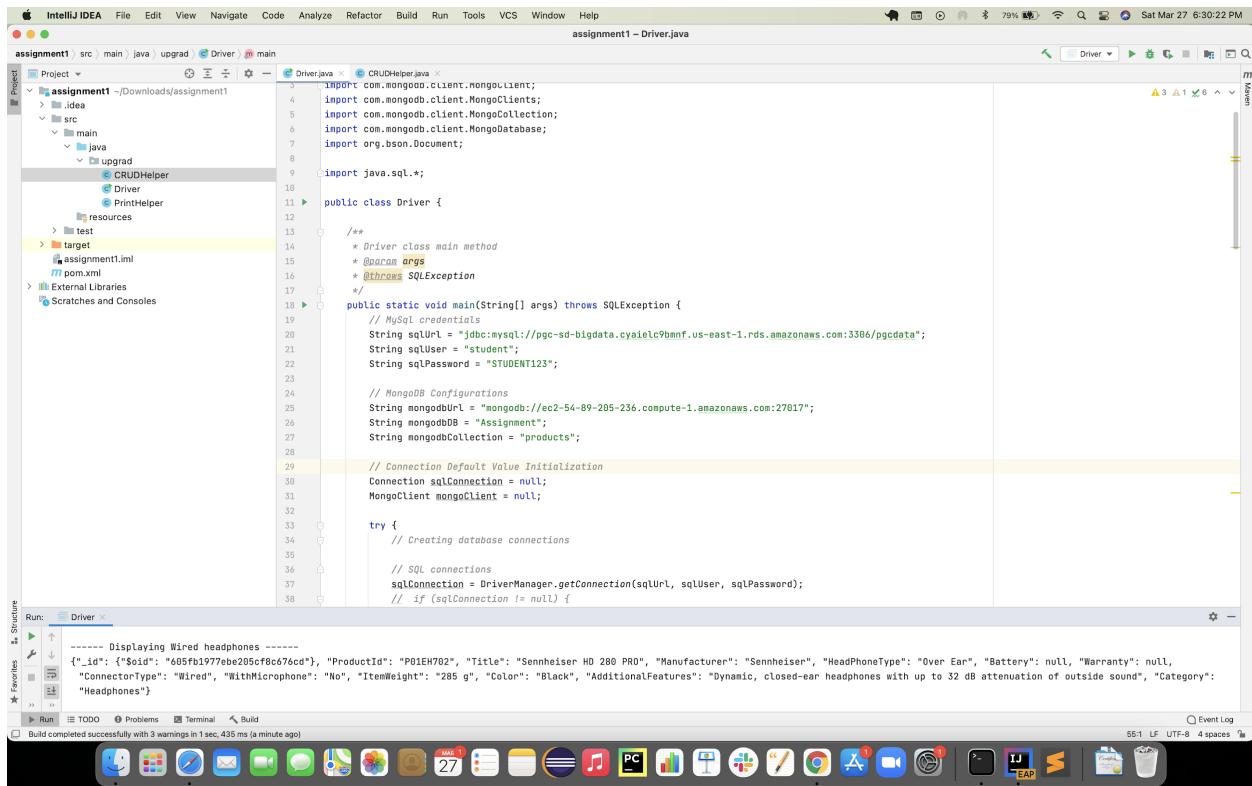
            // SQL connections
            sqlConnection = DriverManager.getConnection(sqlUrl, sqlUser, sqlPassword);
            // if (sqlConnection != null) {
    }

Run: Driver
----- Displaying Product Count by categories -----
Category : Cameras | Count : 5
Category : Mobiles | Count : 5
Category : Headphones | Count : 5
```

(Image 4: Query-04)

Query-05:

Get the information about all the wired headphones



The screenshot shows the IntelliJ IDEA interface with the following details:

- Project Structure:** The project is named "assignment1". The `Driver.java` file is open in the editor.
- Code Editor:** The code implements a `Driver` class that connects to MySQL and MongoDB to query wired headphones. It includes imports for `com.mongodb.client.MongoClient`, `com.mongodb.client.MongoClients`, `com.mongodb.client.MongoCollection`, `com.mongodb.client.MongoDatabase`, `org.bson.Document`, and `java.sql.*`. The `main` method establishes connections and prints results.
- Run Tab:** The output window shows the results of running the application, displaying a list of wired headphones with their IDs, product IDs, titles, manufacturers, and additional features like battery life and warranty.
- Bottom Bar:** Shows various Mac OS X application icons and the IntelliJ IDEA status bar indicating "Build completed successfully with 3 warnings in 1 sec, 435 ms (a minute ago)".

```
Driver.java
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 java.sql.*;

public class Driver {

    /**
     * Driver class main method
     * @param args
     * @throws SQLException
     */
    public static void main(String[] args) throws SQLException {
        // MySQL credentials
        String sqlUrl = "jdbc:mysql://pgc-sd-bigdata.cyaielc9bmnf.us-east-1.rds.amazonaws.com:3306/pgcdata";
        String sqlUser = "student";
        String sqlPassword = "STUDENT123";

        // MongoDB Configurations
        String mongoUrl = "mongodb://ec2-54-89-205-236.compute-1.amazonaws.com:27017";
        String mongoDB = "Assignment";
        String mongoCollection = "products";

        // Connection Default Value Initialization
        Connection sqlConnection = null;
        MongoClient mongoClient = null;

        try {
            // Creating database connections
            // SQL connections
            sqlConnection = DriverManager.getConnection(sqlUrl, sqlUser, sqlPassword);
            // if (sqlConnection != null) {
                System.out.println("----- Displaying Wired headphones -----");
                MongoClient mongoClient = MongoClients.create(mongoUrl);
                MongoDatabase database = mongoClient.getDatabase(mongoDB);
                MongoCollection collection = database.getCollection(mongoCollection);
                Document filter = new Document("ConnectorType", "Wired");
                Document projection = new Document("WithMicrophone", "No");
                FindIterable iterable = collection.find(filter).projection(projection);
                iterable.forEach(item -> System.out.println(item));
            }
        } catch (Exception e) {
            e.printStackTrace();
        } finally {
            if (sqlConnection != null) {
                sqlConnection.close();
            }
            if (mongoClient != null) {
                mongoClient.close();
            }
        }
    }
}
```

----- Displaying Wired headphones -----
{"_id": {"\$oid": "605fb1977ebe205cf8c676cd"}, "ProductId": "P01EH702", "Title": "Sennheiser HD 280 PRO", "Manufacturer": "Sennheiser", "HeadPhoneType": "Over Ear", "Battery": null, "Warranty": null, "ConnectorType": "Wired", "WithMicrophone": "No", "ItemWeight": "285 g", "Color": "Black", "AdditionalFeatures": "Dynamic, closed-ear headphones with up to 32 dB attenuation of outside sound", "Category": "Headphones"}

(Image 5: Query-05)