Data Retrieval & Aggregation:

– 1. Create a new derived attribute on orders to calculate and show the order processing time in
days along with all other attributes.

```
SELECT *, DATEDIFF(ship_date, order_date) AS order_processing_time FROM orders;
```

– 2. Find the average sales price of products per product sub-category.

```
SELECT sub_category, AVG(sales) AS avg_sales_price FROM products GROUP BY
sub_category;;
```

– 3. Find the minimum and maximum sales prices of any product per product sub-category.

```
SELECT sub_category, MIN(sales) AS min_sales, MAX(sales) AS max_sales FROM products
GROUP BY sub_category;
```

-- 4. Find the count of all tuples / records in each table of your database.

```
SELECT 'customer_addresses' AS table_name, COUNT(*) AS record_count FROM
customer_addresses;
SELECT 'customers' AS table_name, COUNT(*) AS record_count FROM customers;
SELECT 'orders' AS table_name, COUNT(*) AS record_count FROM orders;
SELECT 'product_categories' AS table_name, COUNT(*) AS record_count FROM
product_categories;
SELECT 'products' AS table_name, COUNT(*) AS record_count FROM products;
```

-- 5. Show a list of product categories that have more than 5 sub-categories in them.

```
SELECT category, COUNT(sub_category) AS sub_category_count from product_categories
group by category having sub_category_count > 5;
```

-- 6. Show the total number of orders shipped under each type of shipping mode.

```
SELECT ship_mode, COUNT(*) AS order_count FROM orders GROUP BY ship_mode;
```

-- 7. Show the total number of orders shipped under each type of shipping mode since 2017.

```
SELECT ship_mode, COUNT(*) AS order_count FROM orders WHERE ship_date >=
'2017-01-01' GROUP BY ship_mode;
```

-- 8. Find the distribution of customers in each segment (total number of customers per segment).

```
SELECT segment, COUNT(*) AS customers_count FROM customers GROUP BY segment;
```

-- 9. Find the distribution of customers in each segment for “New York City”, i.e., postal codes ‘10009’, ‘10011’, ‘10024’ and ‘10035’.
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-- 10. Find the total number of products per sub-category that have a sales price greater than $100.
SELECT sub_category, COUNT(*) AS product_count FROM products WHERE sales > 100 GROUP BY sub_category order by product_count DESC;

-- 11. Orders deliveries are considered late if they take more than 7 days to be shipped after being placed. Find the total number of late deliveries per year.
SELECT YEAR(order_date) AS order_year, COUNT(*) AS late_delivery_count FROM orders WHERE DATEDIFF(ship_date, order_date) > 7 GROUP BY YEAR(order_date);

-- 12. Show the product IDs of the top 10 most purchased products.
SELECT product_id, sales FROM products ORDER BY sales DESC LIMIT 10;

-- 13. Show the names of the top 5 most expensive products.
SELECT product_name FROM products ORDER BY sales DESC limit 5;

-- 14. Show a list of the top 3 most frequent buyers.
SELECT customer_id, count(order_id) AS frequent_buyers FROM orders GROUP BY customer_id ORDER BY frequent_buyers DESC LIMIT 3;

– 15. Show the order ID of the largest order given, i.e., maximum product count per order.