RETAIL SALES ANALYSIS USING SQL

```
CREATE TABLE df_orders (
                    order_id int primary key,
                    order_date  date ,
                    ship_mode varchar (20),
                    segment varchar (20),
                   country varchar (20),
                   city varchar (20),
                   state varchar (20),
                   postal_code varchar (20),
                  region varchar (20),
                  category varchar (20),
                  sub_category varchar (20),
                  product_id varchar (50),
                  quantity int,
                  discount decimal (7,2),
                  sale_price decimal (7,2),
                  profit decimal (7,2)
                            );
```

1.Find the top 10 highest revenue generating products.

```
SELECT TOP 10 product_id, SUM(sale_price) AS Revenue
FROM df_orders
GROUP BY product_id
ORDER BY Revenue DESC;
```

2.Find Top 5 highest Selling Products in Each Region

```
WITH cte AS(
SELECT region,product_id, SUM(sale_price) AS sales
FROM df_orders
GROUP BY region,product_id)
SELECT * FROM (
SELECT * ,
ROW_NUMBER() OVER(PARTITION BY region ORDER BY sales DESC) AS rn
FROM cte) A
WHERE rn<5;
```

3.Find month over month growth comparison for 2022 and 2023 sales (e.g.: Jan,2020 vs Jan,2023)

```
WITH cte AS (
SELECT YEAR(order_date) AS Order_year,
          MONTH(order_date) AS Order_month,
           SUM(sale_price) AS Sales
FROM df_orders
GROUP BY YEAR(order_date), MONTH(order_date)
                  )
SELECT Order_month,
SUM(CASE WHEN Order_year=2022 THEN Sales ELSE 0 END )AS Sales_2022,
SUM(CASE WHEN Order_year=2023 THEN Sales ELSE 0 END )AS Sales_2023
FROM cte
GROUP BY Order_month
ORDER BY Order_month;
```

4.For each category which month had highest sales.

```
WITH cte AS (
SELECT category, FORMAT(order_date,'yyyy/mm') AS order_year_month,
     SUM(sale_price) AS Sales
FROM df_orders
GROUP BY category, FORMAT(order_date,'yyyy/mm')
   )
SELECT * FROM (
SELECT *,
ROW_NUMBER() OVER (PARTITION BY category ORDER BY Sales DESC) AS rn
FROM cte) A
WHERE rn=1;
```

5.Which Sub-category had highest growth by profit in 2023 compare to 2022.

```
WITH cte AS (
SELECT sub_category,
      YEAR(order_date) AS Order_year,
      SUM(sale_price) AS Sales
FROM df_orders
GROUP BY sub_category, YEAR(order_date)
          )
,cte2 AS(
SELECT sub_category,
SUM(CASE WHEN Order_year=2022 THEN Sales ELSE 0 END )AS Sales_2022,
SUM(CASE WHEN Order_year=2023 THEN Sales ELSE 0 END )AS Sales_2023
FROM cte
GROUP BY sub_category
)
SELECT TOP 1 *,
(Sales_2023-Sales_2022) AS Highest_Profit
FROM cte2
ORDER BY (Sales_2023-Sales_2022) DESC;
```