**Analysis about Retail company's sales and inventory transactions**

**MySQL Code:**

**1. The Total revenue generated by the company for each product category.**



SELECT category, SUM(s.amount) AS total\_amount

FROM apnibus.sales s

JOIN apnibus.product p ON s.product\_id = p.product\_id

group by p.category;

**2.** **Top 5 customers who have made the highest total purchases, considering the customer's age and gender.**

SELECT c.customer\_id, c.age, c.gender, SUM(s.amount) AS total\_purchases

FROM sales s

JOIN customer c ON s.customer\_id = c.customer\_id

GROUP BY c.customer\_id, c.age, c.gender

ORDER BY total\_purchases DESC

LIMIT 5;

**3. Most profitable product category by calculating the average revenue per unit sold.**

SELECT AVG(s.amount/ s.quantity) AS avg\_revenue\_per\_unit, p.category

FROM sales s

JOIN product p ON s.product\_id = p.product\_id

group by p.category

order by avg\_revenue\_per\_unit;

**4. Analyze the inventory data and identify products that need restocking (stock count less than a specified threshold).**

select product.product\_id, inventory.stock\_count from inventory

where inventory.stock\_count < 500;

**5. Write a SQL query to calculate the average age of customers for each product category.**

First, we joined the customer table and sales table with customer\_id of customer and sales table then we joined that table with product table using product\_id of product and sales table. Using select statement, we retrieved product category and average age of customers as output.

select product.category, avg(age) as 'Average Age'

from customer

join sales

on customer.customer\_id = sales.customer\_id

join product

on product.product\_id = sales.product\_id

group by product.category;

**6. Write a SQL query to retrieve the top 3 product categories that have the highest average transaction amount.**

Since This dataset has only 3 categories, I will find the top 2 categories.

select product.category

from product

join sales

on product.product\_id = sales.product\_id

group by product.category

order by avg(sales.amount) limit 2;

**Tables:**

1. **Average age of customer with respect to product category.**



1. **Top 5 customers who have made the highest total purchases, considering the customer's age and gender.**

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1. **Most profitable product category by calculating the average revenue per unit sold.**



1. **Product category with highest average transaction amount:**



1. **Revenue with respect to product category:**



**Visualizations:**

**(Made in Power BI)**

