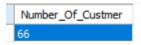Aggregate Functions and Grouping

-- Aggregate Function --

-- SUM of all Order Amount

SELECT SUM(Amount) **AS** Total_Amount **FROM** Orders ;

Total_Amount
793949.00

-- COUNT customers

SELECT COUNT(Customer_id) AS Number_Of_Custmer **FROM** Customers ;

Number_Of_Custmer
66

-- Find max price in product

SELECT MAX(price) AS Total_Price **FROM** Products ;

Total_Price
150000.00

-- -- GROUP BY -- --

-- Revenue and Orders per Payment Type.

SELECT Payment_Type, COUNT(Order_Id) **AS** NO_OF_ORDER , SUM(Amount) **AS** Total_Revenue **FROM** Orders **GROUP BY** Payment_Type **ORDER BY** Total_Revenue **DESC** ;

Payment_Type	NO_OF_ORDER	Total_Revenue
UPI	16	327919.00
CARD	16	324530.00
CASH	8	141500.00

-- What is the total number of Category

SELECT Category , COUNT(category) **AS** Count **FROM** Products **GROUP BY** Category ;

Category	Count
Electronics	15
Apparel	15
Home Appliances	15
Furniture	10
Books	5
Sports & Outdoors	15
Kitchen & Dining	10
Health & Beauty	10

-- What is the total amount of sales and the average amount of a single order for each distinct payment type (UPI, CARD, CASH)?

SELECT Payment_Type, SUM(Amount) **AS** Total_Revenue , AVG(Amount) **AS** Average_Order_Amount

FROM Orders **GROUP BY** Payment_Type **ORDER BY** Total_Revenue **DESC** ;

Payment_Type	Total_Revenue	Average_Order_Amount
UPI	327919.00	20494.937500
CARD	324530.00	20283.125000
CASH	141500.00	17687.500000

--   -- Filter Groups using HAVING -- --

-- Stock Quantity per Category

SELECT Category, SUM(Stock_quantity) **AS** Total_Stock **FROM** Products

GROUP BY Category **HAVING** Total_Stock > 1000 **ORDER BY** Total_Stock **DESC** ;

Category	Total_Stock
Apparel	3920
Sports & Outdoors	3030
Health & Beauty	2320
Kitchen & Dining	1515
Electronics	1435
Books	1430
Home Appliances	1275

-- Which payment types have been used for a total revenue exceeding 200,000? List the payment type and its total revenue.

SELECT Payment_Type, SUM(Amount) AS Total_Revenue **FROM** Orders

GROUP BY Payment_Type **HAVING** Total_Revenue > 200000 **ORDER BY** Total_Revenue **DESC** ;

Payment_Type	Total_Revenue
UPI	327919.00
CARD	324530.00

-- Combibned Aggregate Functions, GROUP BY, and HAVING –

-- This query combines all three concepts to give you meaningful insights:

 -- Category Performance Analysis .

 SELECT P.Category, COUNT(O.Order_Id) **AS** Total_Orders, SUM(O.Amount) **AS** Total_Sales, AVG(O.Amount) **AS** Average_Order_Amount, -- Aggregate fun

 MAX(O.Amount) **AS** Max_Order_Amount **FROM** Orders O **JOIN** Products P **ON** O.Product_Id = P.Product_Id -- join use

GROUP BY P.Category **HAVING** Total_Sales > 50000 **ORDER BY** Total_Sales **DESC** ;   -- Group by and Having Fillter

Category	Total_Orders	Total_Sales	Average_Order_Amount	Max_Order_Amount
Electronics	12	611500.00	50958.333333	150000.00
Home Appliances	6	97250.00	16208.333333	40000.00