**-- Query that joins all 3 Tables.**

SELECT

c.Customer\_id,

c.Customer\_name,

c.Customer\_email,

p.Product\_ID,

p.Product\_Name,

p.Category,

s.Sales\_ID,

s.Sales\_date,

s.Sales\_amount

FROM

sales s

JOIN

customer c ON s.Customer\_ID = c.Customer\_id

JOIN

product p ON s.Product\_ID = p.Product\_ID;

**-- Finds the most profitable product (one).**

SELECT

p.Product\_ID,

p.Product\_Name,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))), 2) as Total\_Revenue,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))) -

(COUNT(\*) \* CAST(REPLACE(REPLACE(p.Price, '$', ''), ',', '') AS DECIMAL(10,2))), 2) as Estimated\_Profit,

COUNT(\*) as Number\_of\_Sales

FROM

sales s

JOIN

product p ON s.Product\_ID = p.Product\_ID

GROUP BY

p.Product\_ID, p.Product\_Name

ORDER BY

Estimated\_Profit DESC

LIMIT 1;

**-- Finds the 5 most profitable product.**

SELECT

p.Product\_ID,

p.Product\_Name,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))), 2) as Total\_Revenue,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))) -

(COUNT(\*) \* CAST(REPLACE(REPLACE(p.Price, '$', ''), ',', '') AS DECIMAL(10,2))), 2) as Estimated\_Profit,

COUNT(\*) as Number\_of\_Sales

FROM

sales s

JOIN

product p ON s.Product\_ID = p.Product\_ID

GROUP BY

p.Product\_ID, p.Product\_Name

ORDER BY

Estimated\_Profit DESC

LIMIT 5;

**-- Finds the geographic trends exist in the customer data (State & City)**

SELECT

c.State,

c.City,

COUNT(DISTINCT c.Customer\_id) as Number\_of\_Customers,

COUNT(s.Sales\_ID) as Number\_of\_Sales,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))), 2) as Total\_Revenue

FROM

customer c

LEFT JOIN

sales s ON c.Customer\_id = s.Customer\_ID

GROUP BY

c.State, c.City

ORDER BY

Total\_Revenue DESC, Number\_of\_Customers DESC

LIMIT 5;

**-- Finds the geographic trends exist in the customer data (State only)**

SELECT

c.State,

COUNT(DISTINCT c.Customer\_id) AS Number\_of\_Customers,

COUNT(s.Sales\_ID) AS Number\_of\_Sales,

ROUND(SUM(CAST(REPLACE(REPLACE(s.Sales\_amount, '$', ''), ',', '') AS DECIMAL(10,2))), 2) AS Total\_Revenue

FROM

customer c

LEFT JOIN

sales s ON c.Customer\_id = s.Customer\_ID

GROUP BY

c.State

ORDER BY

Total\_Revenue DESC, Number\_of\_Customers DESC

LIMIT 5;