Task 1

select color from products group by color;

select color, avg(average\_rating) as rating from products

where sub\_category="Women/shoes"

group by color;

select color, avg(average\_rating) as rating from products

where sub\_category="Women/shoes"

group by color

order by rating desc;

Task2

select max(product\_id)as product\_id, sum(quantity) as item\_sold from sales

group by product\_id;

select p.color, s.item\_sold from products as p

inner join

(select max(product\_id)as product\_id, sum(quantity) as item\_sold from sales group by product\_id) as s

on s.product\_id = p.product\_id;

select p.color, sum(s.item\_sold) from products as p

inner join

(select max(product\_id)as product\_id, sum(quantity) as item\_sold from sales group by product\_id) as s

on s.product\_id = p.product\_id group by p.color;

select p.color, sum(s.item\_sold) as items\_sold from products as p

inner join

(select max(product\_id)as product\_id, sum(quantity) as item\_sold from sales group by product\_id) as s

on s.product\_id = p.product\_id

group by p.color

ORDER BY `items\_sold` DESC

select p.color, sum(s.item\_sold) as items\_sold from products as p

inner join

(select max(product\_id)as product\_id, sum(quantity) as item\_sold from sales group by product\_id) as s

on s.product\_id = p.product\_id

group by p.color

ORDER BY `items\_sold` DESC Limit 5;

Task3

Select product\_id, MAX(product\_name) as product\_name,AVG(average\_rating) AS rating, SUM(reviews\_count) AS reviews\_count

from products

where sub\_category like 'men%'

group by product\_id

Select product\_id, MAX(product\_name) as product\_name,AVG(average\_rating) AS rating, SUM(reviews\_count) AS reviews\_count

from products

where sub\_category like 'men%'

group by product\_id

having SUM(reviews\_count) > 500;

Select product\_id, MAX(product\_name) as product\_name,AVG(average\_rating) AS rating, SUM(reviews\_count) AS reviews\_count from products

where sub\_category like 'men%'

group by product\_id having SUM(reviews\_count) > 500

order by rating limit 50;

task4

Select c.customer\_id, c.customer\_name,SUM(s.quantity) as item\_bought from customer as c

inner join sales as s

on c.customer\_id = s.customer\_id

group by c.customer\_id, c.customer\_name;

Select c.customer\_id, c.customer\_name,SUM(s.quantity) as item\_bought

from customer as c

inner join sales as s

on c.customer\_id = s.customer\_id

group by c.customer\_id, c.customer\_name

order by item\_bought DESC

limit 100;

task5

SELECT p.brand\_name, s.quantity

FROM products as p

INNER JOIN sales as s ON p.product\_id = s.product\_id

SELECT p.brand\_name, s.quantity

FROM products as p

INNER JOIN sales as s ON p.product\_id = s.product\_id

WHERE p.sub\_category = 'men/shoes'

SELECT p.brand\_name, SUM(s.quantity) as total\_items\_sold

FROM products as p

INNER JOIN sales as s ON p.product\_id = s.product\_id

WHERE p.sub\_category = 'men/shoes'

GROUP BY p.brand\_name

SELECT p.brand\_name, SUM(s.quantity) as total\_items\_sold

FROM products as p

INNER JOIN sales as s ON p.product\_id = s.product\_id

WHERE p.sub\_category = 'men/shoes'

GROUP BY p.brand\_name

ORDER BY total\_items\_sold DESC

LIMIT 2;

Task 6

SELECT products.sub\_category, sales.profit, sales.sales

FROM products

INNER JOIN sales

ON products.product\_id = sales.product\_id;

SELECT products.sub\_category, (SUM(sales.profit) / SUM(sales.sales)) \* 100 as profit\_margin

FROM products

INNER JOIN sales

ON products.product\_id = sales.product\_id

GROUP BY products.sub\_category

ORDER BY profit\_margin DESC;

SELECT products.sub\_category, (SUM(sales.profit) / SUM(sales.sales)) \* 100 as profit\_margin

FROM products

INNER JOIN sales

ON products.product\_id = sales.product\_id

GROUP BY products.sub\_category

ORDER BY profit\_margin DESC

Limit 10;

Task 7

SELECT p.color, s.sales

FROM products p

INNER JOIN sales s

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

SELECT p.color, SUM(s.sales) as sum\_sales

FROM products p

INNER JOIN sales s

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

WHERE p.reviews\_count >= 100

GROUP BY p.color;

SELECT p.color, SUM(s.sales) as sum\_sales

FROM products p

INNER JOIN sales s

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

WHERE p.reviews\_count >= 100

GROUP BY p.color

HAVING AVG(p.average\_rating) > 4

ORDER BY sum\_sales DESC;

task 8

SELECT delivery\_mode, sales, profit, order\_id

FROM sales

WHERE DATE(order\_date) >= DATE\_SUB(CURDATE(), INTERVAL 1 YEAR)

SELECT delivery\_mode,

SUM(sales) as total\_sales,

SUM(profit) as total\_profit,

COUNT(DISTINCT order\_id) as order\_count

FROM sales

WHERE DATE(order\_date) >= DATE\_SUB(CURDATE(), INTERVAL 1 YEAR)

GROUP BY delivery\_mode

ORDER BY total\_sales DESC

LIMIT 10

alternate to tackle date error

SELECT delivery\_mode,

SUM(sales) as total\_sales,

SUM(profit) as total\_profit,

COUNT(DISTINCT order\_id) as order\_count

FROM sales

WHERE order\_date BETWEEN '2022-01-30' AND DATE\_ADD('2022-01-30', INTERVAL 1 YEAR)

GROUP BY delivery\_mode

ORDER BY total\_sales DESC

LIMIT 10;

task 9

Select p.brand\_name, s.profit, s.order\_id, s.order\_date

from products as p

inner join sales as s

on p.product\_id = s.product\_id

WHERE order\_date BETWEEN DATE\_SUB('2022-12-30', INTERVAL 1 YEAR) AND '2022-12-30'

SELECT brand\_name, (total\_profit / total\_orders) as avg\_profit\_per\_order

FROM (

SELECT p.brand\_name, SUM(s.profit) as total\_profit, COUNT(DISTINCT s.order\_id) as total\_orders

FROM sales s

JOIN products p

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

WHERE order\_date BETWEEN DATE\_SUB('2022-12-30', INTERVAL 1 YEAR) AND '2022-12-30'

GROUP BY p.brand\_name

) as c

ORDER BY avg\_profit\_per\_order DESC;

task 10

SELECT s.quantity, c.state, p.sub\_category

FROM sales s

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

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

Select p.sub\_category,c.state, s.quantity

from sales as s

Join products as p on p.product\_id = s.product\_id

Join customer as c on c.customer\_id = s.customer\_id

Where p.sub\_category = 'Men/Shoes' AND order\_date BETWEEN DATE\_SUB('2022-12-30', INTERVAL 1 YEAR) AND '2022-12-30' AND c.state in ('California', 'New York', 'Texas')

Select p.sub\_category,c.state, (SUM(s.quantity)/1365) \* 100 as percentage\_of\_products\_sold

from sales as s

Join products as p on p.product\_id = s.product\_id

Join customer as c on c.customer\_id = s.customer\_id

Where p.sub\_category = 'Men/Shoes' AND order\_date BETWEEN DATE\_SUB('2022-12-30', INTERVAL 1 YEAR) AND '2022-12-30' AND c.state in ('California', 'New York', 'Texas')

GROUP BY c.state, p.sub\_category

order by percentage\_of\_products\_sold DESC;

task 11

Select p.brand\_name, p.product\_name, p.color, p.sub\_category,c.state, s.quantity

from sales as s

Join products as p on p.product\_id = s.product\_id

Join customer as c on c.customer\_id = s.customer\_id

where p.color = 'white' AND c.state = 'California' AND p.sub\_category = 'men/shoes'

Select max(p.brand\_name) as brand\_name, p.product\_name, p.color, Max(p.sub\_category) as sub\_category ,MAX(c.state) as state, SUM(s.quantity) as total\_sales

from sales as s

Join products as p on p.product\_id = s.product\_id

Join customer as c on c.customer\_id = s.customer\_id

where p.color = 'white' AND c.state = 'California' AND p.sub\_category = 'men/shoes'

GROUP BY p.product\_name

ORDER BY total\_sales desc limit 5;

task 12

SELECT max(p.category) as category, p.sub\_category,

sum(s.profit) total\_profit, sum(s.quantity) as total\_quantity,

c.state

FROM products as p

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

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

WHERE c.state = "New York"

GROUP BY p.sub\_category

ORDER BY total\_profit DESC;

SELECT \*, RANK() OVER (PARTITION BY category ORDER BY total\_profit DESC) as rank\_

FROM (SELECT max(p.category) as category,

p.sub\_category,

sum(s.profit) total\_profit,

sum(s.quantity) as total\_quantity,

c.state

FROM products as p

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

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

WHERE c.state = "New York"

GROUP BY p.sub\_category

ORDER BY total\_profit DESC) as subcat\_profit

Select category, sub\_category, total\_quantity

FROM (SELECT \*, Rank() Over(PARTITION BY category ORDER BY total\_profit DESC) as rank\_

FROM (Select max(p.category) as category, p.sub\_category, SUM(s.quantity) as total\_quantity, SUM(s.profit) as total\_profit, c.state

from sales as s

Join products as p on p.product\_id = s.product\_id

Join customer as c on c.customer\_id = s.customer\_id

Where c.state = 'New York'

GROUP BY p.sub\_category

ORDER BY total\_profit desc) as subcat\_profit

)as subcat\_ranked

Where rank\_ <= 4

Task 13

Select p.brand\_name, SUM(s.profit) as total\_profit

from products as p

JOIN sales as s

on s.product\_id = p.product\_id

GROUP BY p.brand\_name

Select p.brand\_name, SUM(s.profit) as total\_profit

from products as p

JOIN sales as s

on s.product\_id = p.product\_id

WHERE Month(order\_date) BETWEEN 6 AND 8 And Year(order\_date) = 2019

GROUP BY p.brand\_name

Select p.brand\_name, SUM(s.profit) as total\_profit

from products as p

JOIN sales as s

on s.product\_id = p.product\_id

WHERE Month(order\_date) BETWEEN 6 AND 8 And Year(order\_date) = 2019

GROUP BY p.brand\_name

ORDER by total\_profit DESC limit 1

Task 14

SELECT category, SUM(profit) AS total\_profit\_per\_category

FROM sales

INNER JOIN products ON sales.product\_id = products.product\_id

WHERE order\_date BETWEEN '2019-01-01' AND '2019-06-30'

AND delivery\_mode = 'Standard Delivery'

GROUP BY category;

SELECT category, SUM(profit) AS total\_profit\_per\_category

FROM sales

INNER JOIN products ON sales.product\_id = products.product\_id

WHERE order\_date BETWEEN '2019-01-01' AND '2019-06-30'

AND delivery\_mode = 'Standard Delivery'

GROUP BY category

ORDER BY total\_profit\_per\_category DESC LIMIT 1

SELECT category

FROM (

SELECT category, SUM(profit) AS total\_profit\_per\_category

FROM sales

INNER JOIN products ON sales.product\_id = products.product\_id

WHERE order\_date BETWEEN '2019-01-01' AND '2019-06-30'

AND delivery\_mode = 'Standard Delivery'

GROUP BY category

ORDER BY total\_profit\_per\_category DESC

LIMIT 1

) AS z

Select p.brand\_name, SUM(s.sales) as total\_sales

from sales as s

JOIN products as p

on p.product\_id = s.product\_id

Where order\_date BETWEEN '2019-01-01' AND '2019-06-30' AND delivery\_mode = 'Standard Delivery'

AND category = (Select Category

From (Select category, SUM(profit) as total\_profit

from sales as s

JOIN products as p

on p.product\_id = s.product\_id

Where order\_date BETWEEN '2019-01-01' AND '2019-06-30' AND delivery\_mode = 'Standard Delivery'

GROUP BY category

ORDER BY total\_profit desc limit 1) as z)

Group by p.brand\_name

ORDER by total\_sales desc;