**/\* Create a query that returns the name of the most popular item in every state and the state. \*/**

WITH prod\_name AS ( /\* Combine the product names to the customers that bought them \*/

SELECT

products.product\_name,

transactions.customer\_id

FROM products

JOIN transactions

ON products.product\_id = transactions.product\_id

),

state\_names AS( /\* combine state with the customers from those states \*/

SELECT

prod\_name.product\_name,

prod\_name.customer\_id,

customers.state

FROM prod\_name

JOIN customers

ON prod\_name.customer\_id = customers.customer\_id

),

most\_popular AS ( /\* calculate most popular items per state in descending order \*/

SELECT

state,

product\_name,

amount\_sold,

ROW\_NUMBER() OVER (PARTITION BY state

ORDER BY amount\_sold DESC) AS rn

FROM (

SELECT state, product\_name, COUNT(product\_name) AS amount\_sold

FROM state\_names

GROUP BY state, product\_name) t

)

SELECT /\* select the most popular item bought in each state \*/

state,

most\_popular.product\_name,

most\_popular.amount\_sold

FROM

most\_popular

WHERE rn = 1

ORDER BY amount\_sold DESC;

**/\* Create a query that returns the name and purchase amount of the five customers in each state who have spent the most money. \*/**

WITH trns\_amt AS ( /\* combine name and state of customer with transaction amount \*/

SELECT

customers.name,

transactions.transact\_amt,

customers.state

FROM transactions

JOIN customers

ON transactions.customer\_id = customers.customer\_id

),

total\_purchase AS ( /\* Calculate total purchases amount for each customer \*/

SELECT

DISTINCT ON (trns\_amt.name) name,

trns\_amt.state,

SUM(trns\_amt.transact\_amt) total\_purchase\_amt

FROM trns\_amt

GROUP BY 1, 2

)

SELECT /\* Select top top 5 customers from each state that spent the most money \*/

state,

name,

total\_purchase\_amt

FROM (

SELECT

state,

name,

total\_purchase\_amt,

ROW\_NUMBER() OVER (PARTITION BY state

ORDER BY total\_purchase\_amt DESC) AS rn

FROM total\_purchase

) tmp

WHERE rn <= 5;

**/\* Create a query that returns the five most popular items for users with a ‘gmail’ email in the past 30 days, based on number of sales. \*/**

WITH gmail AS ( /\* filtering for users with gmails \*/

SELECT

\*

FROM customers

WHERE email LIKE '%gmail.com'

),

gmail\_prods AS ( /\* attaching transaction dates to gmail users by customer id \*/

SELECT

gmail.name,

gmail.email,

DATE(transactions.transact\_at) transact\_at,

transactions.product\_id

FROM gmail

JOIN transactions

ON gmail.customer\_id = transactions.customer\_id

ORDER BY DATE(transactions.transact\_at) DESC

),

prod\_names AS ( /\* attaching product names that gmail users bought, by product id \*/

SELECT

gmail\_prods.name,

gmail\_prods.email,

DATE(gmail\_prods.transact\_at) transact\_at,

products.product\_name,

products.product\_id

FROM gmail\_prods

JOIN products

ON gmail\_prods.product\_id = products.product\_id

WHERE gmail\_prods.transact\_at > current\_date - interval '30' day

/\* filtering for the last 30 days \*/

),

amt\_sold AS ( /\* finding the amount of sales for each product bought by gmail users \*/

SELECT

prod\_names.product\_name,

COUNT(prod\_names.product\_name) amount\_sold

FROM prod\_names

GROUP BY 1

)

SELECT /\* selecting top 5 most popular products for gmail users \*/

\*

FROM amt\_sold

ORDER BY amount\_sold DESC

LIMIT 5;