/\*create a temp table combining data from both test\_group table and control\_group since they have the same column names. I will use this temp table to run queries \*/

create temp table control\_test\_together as (

select

c.campaign\_name

,c.campaign\_date

,c.spend\_usd

,c.impressions

,c.reach

,c.website\_clicks

,c.searches

,c.content\_views

,c.add\_to\_cart

,c.num\_of\_purchases

from

control\_group c

union all

select

t.campaign\_name

,t.campaign\_date

,t.spend\_usd

,t.impressions

,t.reach

,t.website\_clicks

,t.searches

,t.content\_views

,t.add\_to\_cart

,t.num\_of\_purchases

from

test\_group t

)

--view new temp table

select \* from control\_test\_together

/\*Answer question: What is the total spend, total impressions, total reach, and website views for each campaign? What are the overall statistics for each campaign? \*/

select

campaign\_name

,sum(b.spend\_usd) as total\_spend

,av

,sum(b.impressions) as total\_impressions

,sum(b.reach) as total\_reach

,sum(b.content\_views) as total\_views

from

control\_test\_together b

group by

campaign\_name;

/\*Conversion rate by impressions: The conversion rate from impressions to purchases tells you how well the campaign is able to convert people who saw the ad into actual customers\*/

select

b.campaign\_name

,ROUND(

COALESCE(SUM(CAST(b.num\_of\_purchases AS DECIMAL(10, 2))), 0) / NULLIF(COALESCE(SUM(CAST(b.impressions AS DECIMAL(10, 2))), 0), 0) \* 100,

2

) as conversion\_rate\_impressions

from control\_test\_together b

group by campaign\_name;

/\*Conversion rate by website clicks: The conversion rate from impressions to purchases tells you how well the campaign is able to convert people who saw the ad into actual customers\*/

select

b.campaign\_name

,round(

coalesce(sum(cast(b.num\_of\_purchases as decimal(10, 2))), 0) / nullif(coalesce(sum(cast(b.website\_clicks as decimal(10, 2))), 0), 0) \* 100,

2

) as conversion\_rate\_clicks

from control\_test\_together b

group by campaign\_name;

/\*Which campaign has the highest Return on Investment (ROI)? Why this matters: ROI is one of the most critical metrics in marketing. It measures how effectively each campaign is turning its spending into actual revenue (or purchases, in this case)\*/

select

b.campaign\_name

,sum(b.spend\_usd) as total\_spend

,sum(b.num\_of\_purchases) as total\_purchases

,round (

coalesce(

sum(cast(b.num\_of\_purchases as DECIMAL(10, 2))) /

nullif(sum(cast(b.spend\_usd as DECIMAL(10, 2))), 0),

0

)\* 100, 2

) as roi

from control\_test\_together b

group by

campaign\_name;

/\*How much did each campaign spend, and what was the relationship between spending and purchases? Why this matters: This question helps you understand how much money was invested in each campaign and whether the spending aligns with the number of purchases \*/

select

b.campaign\_name,

sum(b.spend\_usd) as total\_spend,

sum(b.num\_of\_purchases) as total\_purchases,

cast(

sum(cast(b.spend\_usd as decimal(10, 2))) /

nullif(sum(cast(b.num\_of\_purchases as decimal(10, 2))), 0)

as decimal(10, 2)

) as cost\_per\_purchase

from

control\_test\_together b

group by

b.campaign\_name;

/\*What is the Click-Through Rate (CTR) for each campaign? Why this matters: The CTR measures how well the campaign is engaging its audience. It tells you the proportion of users who clicked on the ad after seeing it (reaching the website) \*/

select

b.campaign\_name

,round(

coalesce(

cast(sum(coalesce(b.website\_clicks, 0)) as DECIMAL(10, 2)) /

nullif(cast(sum(coalesce(b.reach, 0)) as DECIMAL(10, 2)), 0),

0

),

2

) as click\_through\_rate

from

control\_test\_together b

group by

campaign\_name;

/\*How does the performance (spend, impressions, clicks, purchases) vary over time for each campaign? Why this matters: Understanding the time trends of campaign performance helps you identify patterns (e.g., which days performed better, seasonality effects, or if performance increased over time) \*/

select

c.campaign\_date

,c.campaign\_name

,sum(c.spend\_usd) as total\_spend

,sum(c.impressions) as total\_impressions

,sum(c.website\_clicks) as total\_clicks

,sum(c.num\_of\_purchases) as total\_purchases

from

control\_group c

group by campaign\_date, campaign\_name

order by campaign\_date;

select

t.campaign\_date

,t.campaign\_name

,sum(t.spend\_usd) as total\_spend

,sum(t.impressions) as total\_impressions

,sum(t.website\_clicks) as total\_clicks

,sum(t.num\_of\_purchases) as total\_purchases

from

test\_group t

group by campaign\_date, campaign\_name

order by campaign\_date;

select

b.campaign\_date

,b.campaign\_name

,sum(b.spend\_usd) as total\_spend

,sum(b.impressions) as total\_impressions

,sum(b.website\_clicks) as total\_clicks

,sum(b.num\_of\_purchases) as total\_purchases

from

control\_test\_together b

group by campaign\_date, campaign\_name

order by campaign\_date;