

## SQL Assessment

- 1) Write a query to get the sum of impressions by day

Ans:

```
SELECT date, SUM(impressions) AS total_impressions
FROM marketing_performance
GROUP BY date
ORDER BY date;
```

- 2) Write a query to get the top three revenue-generating states in order of best to worst. How much revenue did the third state generate.

Ans:

```
SELECT state, SUM(revenue) AS total_revenue
FROM website_revenue
GROUP BY state
ORDER BY total_revenue DESC
LIMIT 3;
```

Third best state: OH generated 37,577.

- 3) Write a query that shows total cost, impressions, clicks, and revenue of each campaign. Make sure to include the campaign name in the output.

Ans:

```
SELECT
    c.name,
    SUM(mp.cost) AS total_cost,
    SUM(mp.impressions) AS total_impressions,
    SUM(mp.clicks) AS total_clicks,
    SUM(wr.revenue) AS total_revenue
FROM campaign_info c
LEFT JOIN marketing_performance mp ON c.id = mp.campaign_id
LEFT JOIN website_revenue wr ON c.id = wr.campaign_id
GROUP BY c.name
```

- 4) Write a query to get the number of conversions of Campaign5 by state. Which state generated the most conversions for this campaign?

Ans:

-- Step 1: Get the campaign ID for "Campaign5" from the campaign\_info table

```
SELECT campaign_id
FROM campaign_info
WHERE name = 'Campaign5';
```

-- Step 2: Get the number of conversions by state for Campaign5 from marketing\_performance and website\_revenue

```
WITH Conversions AS (
    SELECT mp.state, SUM(mp.conversions) AS total_conversions
```

```

FROM marketing_performance AS mp
JOIN campaign_info AS ci ON mp.campaign_id = ci.campaign_id
WHERE ci.name = 'Campaign5'
GROUP BY mp.state
)
SELECT c.state, c.total_conversions
FROM Conversions c
WHERE c.total_conversions = (
    SELECT MAX(total_conversions)
    FROM Conversions
);

```

5) In your opinion, which campaign was the most efficient, and why?

Ans:

Campaign 2 (Campaign2) seems to be the most effective campaign overall, according to the data presented. Here is why I think that:

It achieved respectable total impressions of 3238 while having the lowest total cost (\$338.31). The overall clicks to impressions ratio was a respectable 0.43, which indicates that clicks were generated from 43% of impressions.

Given the minimal expenditures, the overall revenue of \$13415 was very impressive.

In conclusion, Campaign 2 had the lowest cost per acquisition while still generating sizable traffic and conversions. Based on the data we have it appears to be significantly better than it was for the previous ads.

6) Extra:

Ans:

```

SELECT
CASE
    WHEN DAYOFWEEK(date) = 1 THEN 'Sunday'
    WHEN DAYOFWEEK(date) = 2 THEN 'Monday'
    WHEN DAYOFWEEK(date) = 3 THEN 'Tuesday'
    WHEN DAYOFWEEK(date) = 4 THEN 'Wednesday'
    WHEN DAYOFWEEK(date) = 5 THEN 'Thursday'
    WHEN DAYOFWEEK(date) = 6 THEN 'Friday'
    WHEN DAYOFWEEK(date) = 7 THEN 'Saturday'
END AS day_of_week,
AVG(impressions) AS avg_impressions,
AVG(clicks) AS avg_clicks,
AVG(conversions) AS avg_conversions
FROM WEEK
GROUP BY day_of_week
ORDER BY avg_conversions DESC;

```