Marketing Campaign Project

Objective:

Analyze the **Marketing Campaign Dataset** to extract actionable insights for campaign performance, focusing on impressions, ROI, locations, engagement, CTR, cost-effectiveness, and channel performance.

Analysis:

We are going to make use of SQL. SQL is a robust language for accessing and manipulating databases. In this specific case, we will make use of PostgreSQL as our relational database management system. When importing the CSV, make sure your columns in the table align with the columns in the data type. Take note of the dollar sign and comma in acquisition_cost. I opted to turn the Date column to text first, then converted it to date type later after importing.

1. **Total Impressions for Each Campaign**

Query | Query History

```
1  SELECT campaign_id, SUM(impressions) AS totalimpressions
2  FROM public.marketing_campaign
3  GROUP BY campaign_id
4  ORDER BY totalimpressions DESC;
5
```

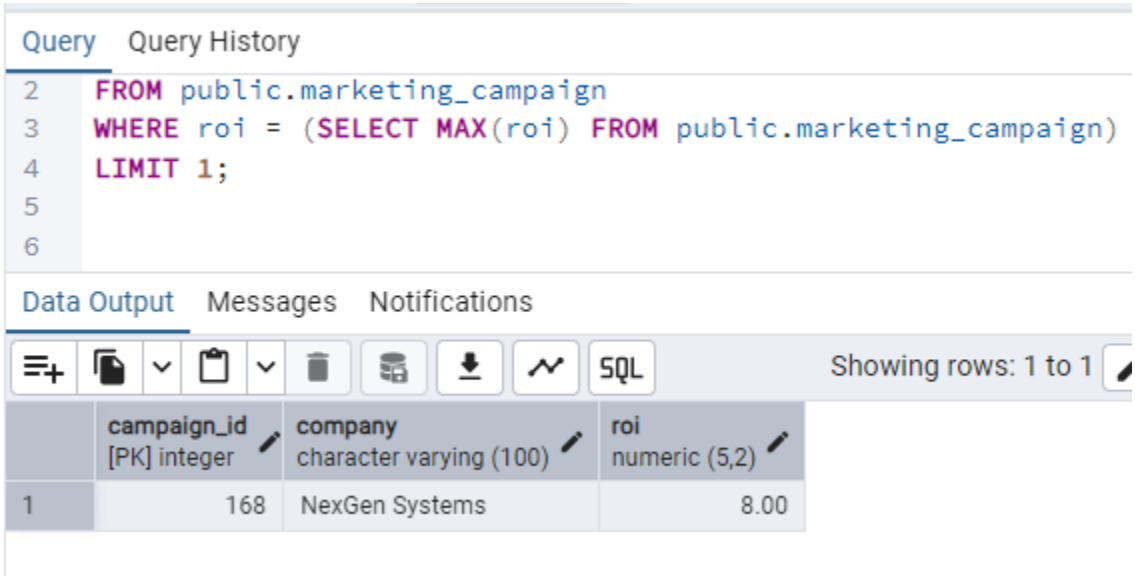
Data Output | Messages | Notifications

SQL | Showing rows: 1 to 1000

	campaign_id [PK] integer	totalimpressions bigint
1	12705	10000
2	73109	10000
3	29381	10000
4	8905	10000
5	26806	10000
6	43755	10000
7	55996	10000
8	17981	10000
9	60573	10000
10	71869	10000
11	26042	10000
12	121988	10000
13	106474	10000
14	93720	10000
15	80154	10000
16	133042	10000
17	127984	10000
18	89918	10000
19	192775	10000
20	183416	10000
21	173029	10000
22	164936	10000
23	159436	10000
24	153461	9999

- The top 23 campaigns had a total of 10,000 impressions.

2. **Campaign with Highest ROI**



- About 160 campaigns had an ROI of 8 but will use LIMIT to just get 1

3. **Top 3 Locations with Most Impressions**

Query | Query History

```
SELECT location, SUM(impressions) AS totalimpressions
FROM public.marketing_campaign
GROUP BY location
ORDER BY totalimpressions DESC
LIMIT 3;
```

Data Output | Messages | Notifications

Showing rows

	location character varying (50)	totalimpressions bigint
1	New York	221359756
2	Miami	221347726
3	Chicago	219999352

- New York, Miami, and Chicago had the highest impressions, highlighting key geographic markets.

4. Average Engagement Score by Target Audience

Query | Query History

```
SELECT target_audience, AVG(engagement_score) AS avgengagementscore
FROM public.marketing_campaign
GROUP BY target_audience
ORDER BY avgengagementscore DESC;
```

Data Output | Messages | Notifications

Showing rows: 1 to 5 | Page

	target_audience character varying (50)	avgengagementscore numeric
1	Men 18-24	5.5150152760873345
2	Women 25-34	5.4927398595456477
3	Men 25-34	5.4919798121127324
4	All Ages	5.4868693935683766
5	Women 35-44	5.4865702479338843

- Men 18-24 had the highest average engagement score although the others are trailing pretty close behind.

5. **Overall CTR (Click-Through Rate)**

- The overall Click Through Rate was found to be 9.98.

6. Most Cost-Effective Campaign

Query | Query History

```
SELECT
    campaign_id,
    company,
    acquisition_cost / NULLIF(conversion_rate, 0) AS costperconversion
FROM public.marketing_campaign
ORDER BY costperconversion ASC;
```

Data Output | Messages | Notifications

Showing rows: 1 to 1000 | Page No:

	campaign_id [PK] integer	company character varying (100)	costperconversion money
1	101103	Alpha Innovations	$33,346.67
2	49893	Alpha Innovations	$33,366.67
3	152027	DataTech Solutions	$33,386.67
4	114405	DataTech Solutions	$33,393.33
5	42484	Alpha Innovations	$33,393.33
6	96762	DataTech Solutions	$33,406.67
7	9207	DataTech Solutions	$33,433.33
8	108742	NexGen Systems	$33,466.67
9	134539	NexGen Systems	$33,473.33
10	180623	NexGen Systems	$33,486.67

- Here are the top 10 companies that were the most cost-effective.

7. **Campaigns with CTR above a threshold (90)**

Query | Query History

```
1  SELECT
2      campaign_id,
3      company,
4      ROUND((clicks::NUMERIC / NULLIF(impressions, 0)) * 100, 2) AS ctr
5  FROM public.marketing_campaign
6  WHERE (clicks::NUMERIC / NULLIF(impressions, 0)) * 100 > 90
```

Data Output | Messages | Notifications

Showing rows: 1 to 129 | Page N

	campaign_id [PK] integer	company character varying (100)	ctr numeric
1	122375	TechCorp	99.20
2	26330	Alpha Innovations	99.20
3	121860	Alpha Innovations	99.00
4	133972	Innovate Industries	99.00
5	171192	Alpha Innovations	98.40
6	65535	DataTech Solutions	98.32
7	77443	Innovate Industries	98.13
8	173975	NexGen Systems	97.22
9	67651	DataTech Solutions	97.05
10	14262	TechCorp	96.99

- "Alpha Innovations" seemed to be doing really well in this metric.

8. **Rank Channels by Total Conversions**

Query | Query History

```
SELECT
    channel_used,
    SUM(conversion_rate) AS totalconversions
FROM public.marketing_campaign
GROUP BY channel_used
ORDER BY totalconversions DESC;
```

Data Output | Messages | Notifications

	channel_used character varying (50)	totalconversions numeric
1	Email	2697.38
2	Google Ads	2681.24
3	Website	2674.95
4	YouTube	2667.76
5	Instagram	2667.57
6	Facebook	2625.27

- Email had the most conversions while Facebook had the least.

Recommendations:

- Have more campaigns in New York, Miami and Chicago.
- Customize campaigns for different audiences to get more variance in engagements.
- Drop campaigns that are the least cost-effective.