

TECH INSTAGRAM INFLUENCER ANALYSIS



#Virtual Internship Project



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PROBLEM STATEMENT

Analyse database tables containing Instagram activity data to explore patterns, answer key business questions, and derive actionable insights.

PROJECT OVERVIEW

- In this project,I will be working with a dataset related to Tech Instagram Influencer's account.
- The goal is to answer 10 AD-HOC requests using SQL queries.

DATASET

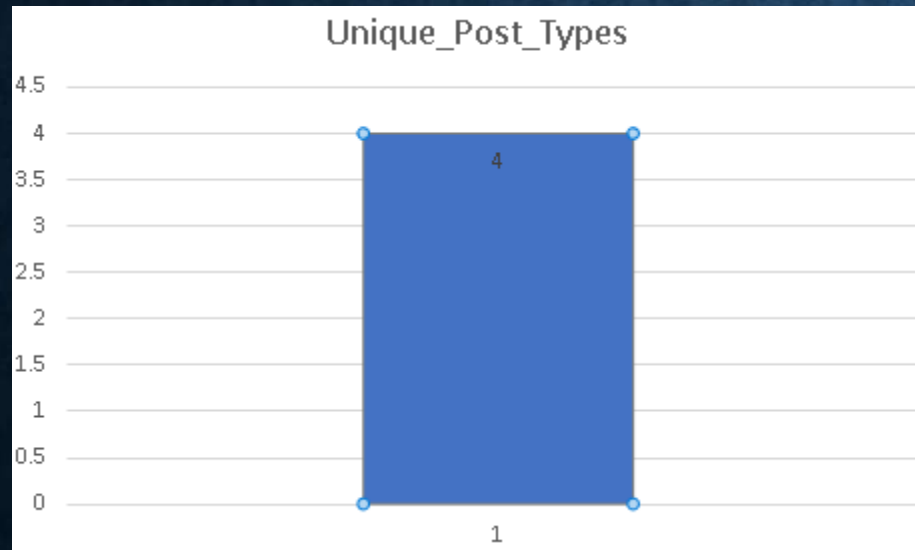
- The database used in this project is gdb0120.
- It has mainly 3 tables
 - i. dim_date
 - ii. fact_account
 - iii. fact_content

1. How many unique post types are found in the 'fact_content' table?

```
SELECT  
    COUNT(DISTINCT Post_type) AS Unique_Post_Types  
FROM  
    fact_content;
```

Unique_Post_Types	
	4

VISUAL-1



- For **Unique_Post_Types = 4**, it means there are four distinct types of Instagram posts (e.g., IG Video, IG Image, IG Carousel, IG Reel) in the dataset.

2. What are the highest and lowest recorded impressions for each post type?

```
SELECT  
    post_type,  
    MAX(impressions) AS highest_impressions,  
    MIN(impressions) AS lowest_impressions  
FROM fact_content  
GROUP BY post_type;
```

post_type	highest_impressions	lowest_impressions
IG Image	129694	23367
IG Reel	339708	87570
IG Carousel	9677	3264
IG Video	73321	8741

VISUAL-2



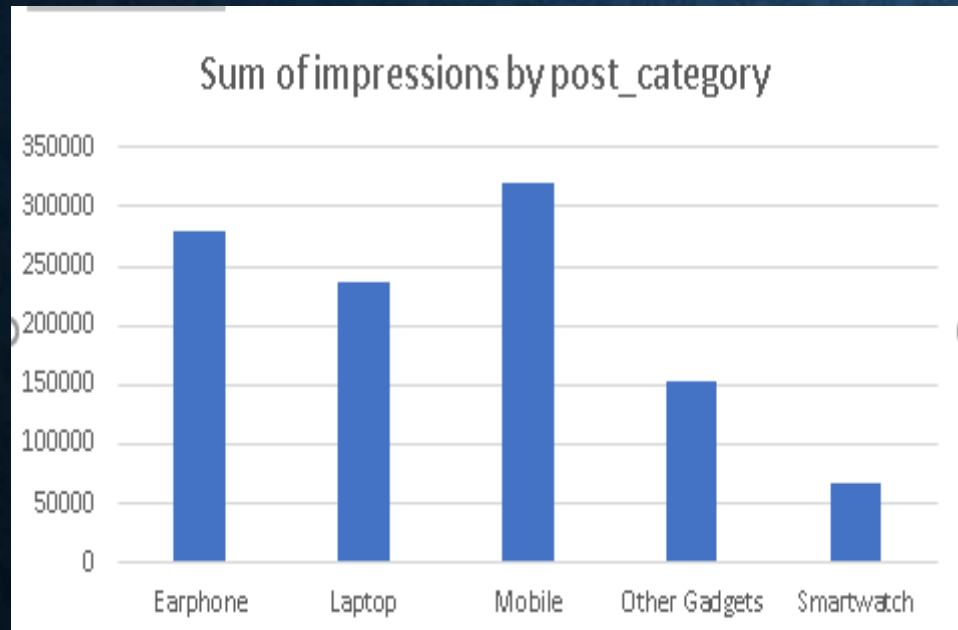
- **IG Reels are the Most Effective:** IG Reels have the highest impressions (339,708) and also a strong minimum (87,570), making them the best-performing post type.
- **IG Carousels Perform the Worst:** IG Carousels have the lowest impressions overall, with a maximum of just 9,677 and a minimum of 3,264.
- **Consistency in IG Videos:** While IG Videos have lower peak impressions (73,321) compared to IG Images (129,694), their minimum impressions (8,741) are higher, showing better consistency.
- **Prioritize Reels and Images:** IG Reels should be the primary focus for maximum reach, followed by IG Images, which also perform well but have lower minimum impressions (23,367).

3. Filter all the posts that were published on a weekend in the month of march and april and export them to a separate csv file.

```
SELECT
    fc.date,
    fc.post_category,
    fc.post_type,
    fc.impressions,
    fc.reach,
    fc.likes,
    fc.comments,
    fc.shares
FROM
    fact_content AS fc
JOIN
    dim_dates AS dd
ON
    fc.date = dd.date
WHERE
    dd.weekday_or_weekend = 'Weekend'
    AND dd.month_name IN ('March', 'April');
```

date	post_category	post_type	impressions	reach	likes	comments	shares
2023-03-04	Earphone	IG Video	12265	3668	327	7	69
2023-03-05	Smartwatch	IG Image	62770	18001	1194	28	273
2023-03-11	Mobile	IG Carousel	5899	1093	53	0	45
2023-03-12	Laptop	IG Image	79416	23474	1235	69	327
2023-03-18	Mobile	IG Carousel	9157	2254	55	6	67
2023-03-19	Smartwatch	IG Carousel	4146	1079	43	1	42
2023-03-25	Earphone	IG Reel	132284	66721	3622	83	1093
2023-03-26	Mobile	IG Image	63425	26113	1994	68	435
2023-04-01	Mobile	IG Carousel	4549	1052	35	1	27

VISUAL-3



- Mobile devices are the most popular: Mobile devices generated the highest number of impressions, indicating strong interest among the audience.
- Earphones and Laptops follow closely: Earphones and Laptops also garnered significant attention with a substantial number of impressions.
- Other Gadgets and Smartwatches have lower impressions: While still generating interest, "Other Gadgets" and Smartwatches had fewer impressions compared to Mobile devices, Earphones, and Laptops.

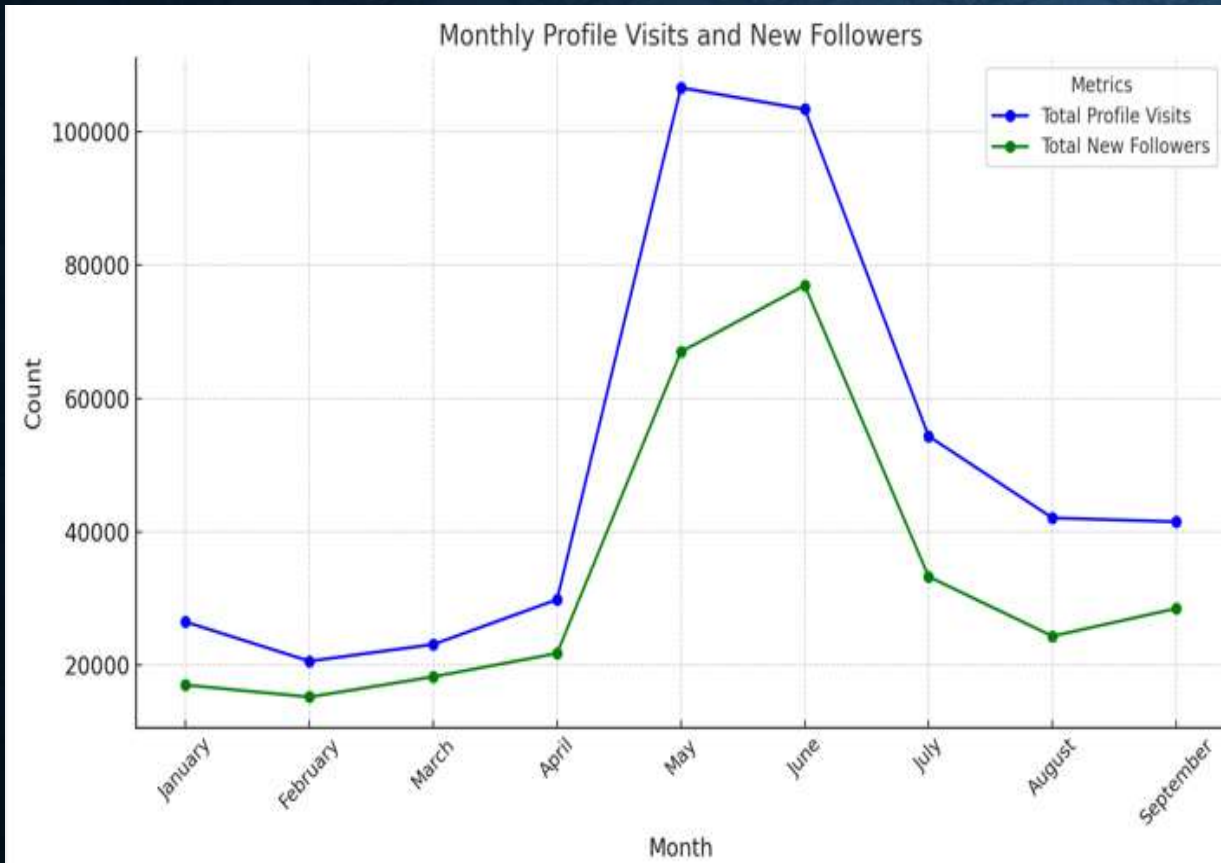
4. Create a report to get the statistics for the account. The final output includes the following fields:

- month_name
- total_profile_visits
- total_new_followers

```
SELECT
    dd.month_name,
    SUM(fa.profile_visits) as total_profile_visits,
    SUM(fa.new_followers) as total_new_followers
FROM fact_account fa
JOIN dim_dates dd ON fa.date = dd.date
GROUP BY dd.month_name
ORDER BY MIN(dd.date);
```

month_name	total_profile_visits	total_new_followers
January	26512	17053
February	20628	15254
March	23132	18285
April	29852	21799
May	106571	66984
June	103350	76942
July	54352	33302
August	42094	24371
September	41522	28523

VISUAL-4



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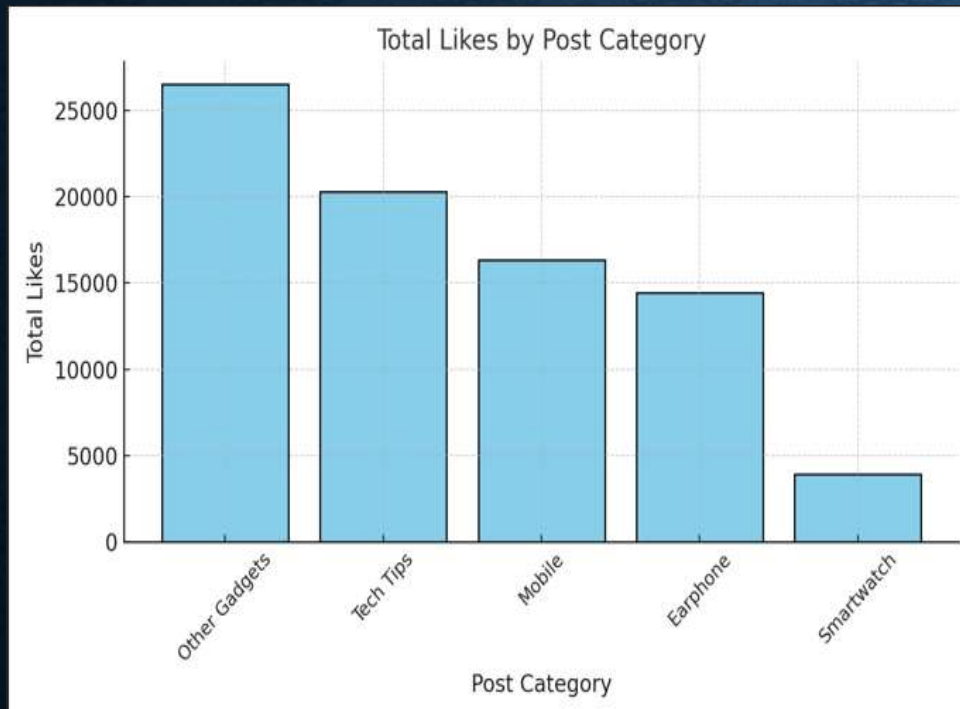
- **May and June Perform Best:** May and June have the highest profile visits (106,571 and 103,350) and the most new followers (66,984 and 76,942).
- **Steady Growth in July-September:** July, August, and September show moderate profile visits (54,352, 42,094, 41,522) and followers, with September having 28,523 new followers.
- **Early Months Are Slower:** January to April have fewer profile visits and new followers compared to mid-year months.

5. Write a CTE that calculates the total number of 'likes' for each 'post_category' during the month of 'july' and subsequently, arrange the 'post_category' values in descending order according to their total likes.

```
WITH likes_cte AS (  
    SELECT  
        post_category,  
        SUM(likes) AS total_likes  
    FROM fact_content  
    JOIN dim_dates ON fact_content.date = dim_dates.date  
    WHERE dim_dates.month_name = 'July'  
    GROUP BY post_category  
)  
SELECT  
    post_category,  
    total_likes  
FROM likes_cte  
ORDER BY total_likes DESC;
```

post_category	total_likes
Other Gadgets	26519
Tech Tips	20296
Mobile	16338
Earphone	14435
Smartwatch	3918

VISUAL-5



- **Other Gadgets Lead:** Posts about "Other Gadgets" have the most likes (26,519), making them the most popular category.
- **Tech Tips Perform Well:** "Tech Tips" rank second with 20,296 likes, showing strong engagement.
- **Smartwatch is Least Popular:** Posts about "Smartwatches" have the fewest likes (3,918), indicating lower interest.

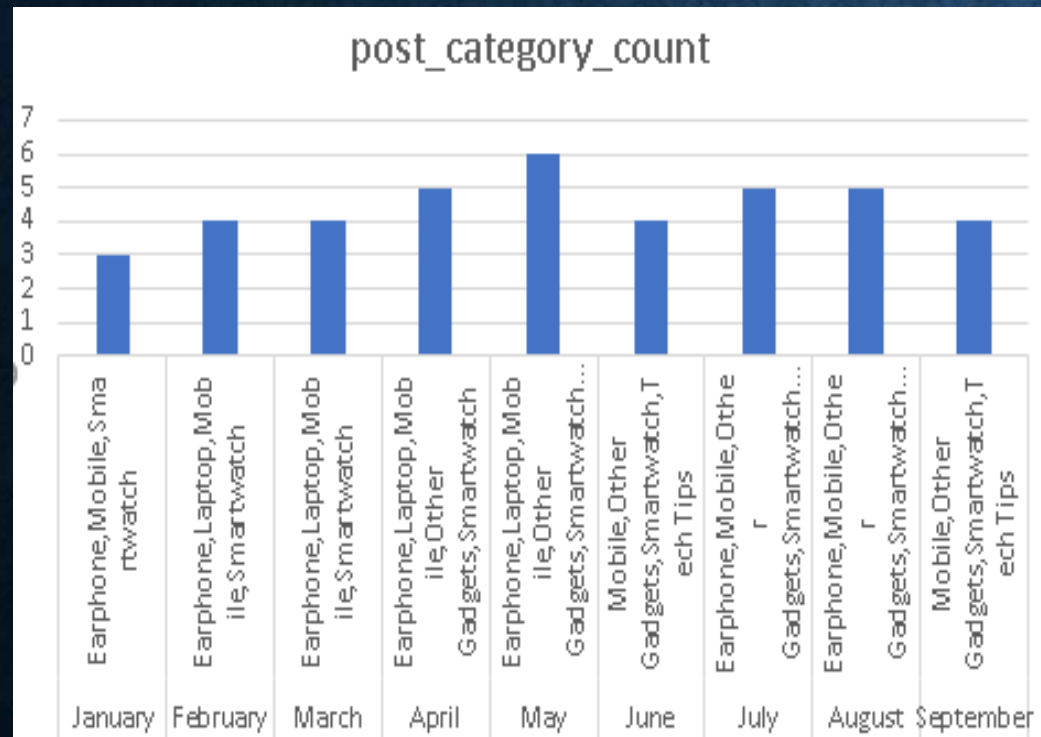
6. Create a report that displays the unique post_category names alongside their respective counts for each month. The output should have three columns:

- month_name
- post_category_names
- post_category_count

```
SELECT
    dd.month_name,
    GROUP_CONCAT(DISTINCT fc.post_category) AS post_category_names,
    COUNT(DISTINCT fc.post_category) AS post_category_count
FROM fact_content fc
JOIN dim_dates dd ON fc.date = dd.date
GROUP BY dd.month_name
ORDER BY MIN(dd.date);
```

month_name	post_category_names	post_category_count
January	Earphone,Mobile,Smartwatch	3
February	Earphone,Laptop,Mobile,Smartwatch	4
March	Earphone,Laptop,Mobile,Smartwatch	4
April	Earphone,Laptop,Mobile,Other Gadgets,Smart...	5
May	Earphone,Laptop,Mobile,Other Gadgets,Smart...	6
June	Mobile,Other Gadgets,Smartwatch,Tech Tips	4
July	Earphone,Mobile,Other Gadgets,Smartwatch,T...	5
August	Earphone,Mobile,Other Gadgets,Smartwatch,T...	5
September	Mobile,Other Gadgets,Smartwatch,Tech Tips	4

VISUAL-6



- **Post Variety Increases Over Time:** The number of post categories grows from 3 in January to a peak of 6 in May
- **Consistent Categories:** "Mobile" and "Smartwatch" appear in all months, showing steady focus on these topics.
- **Decline After May:** Post variety decreases after May, stabilizing at 4-5 categories in later months.

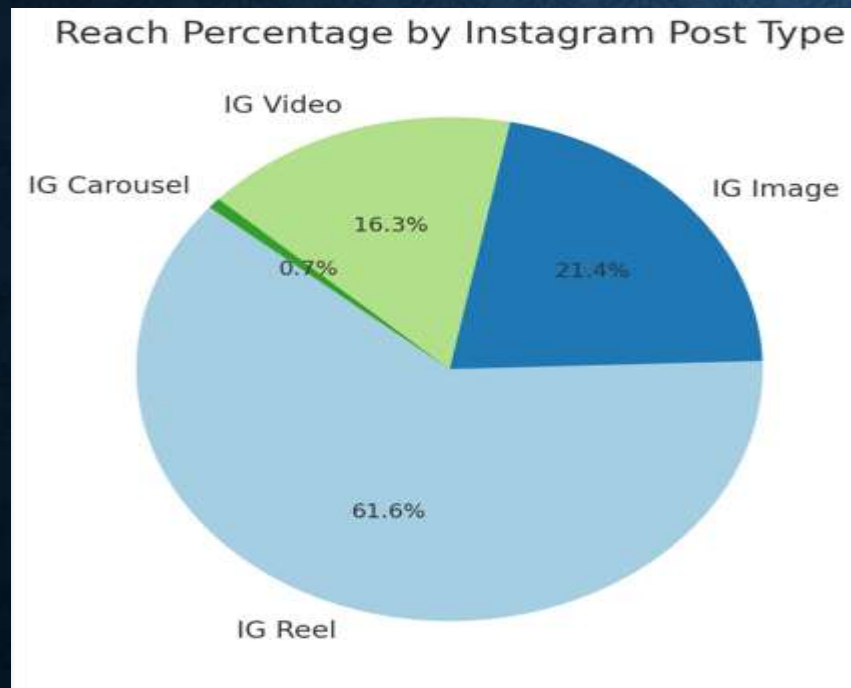
7. What is the percentage breakdown of total reach by post type? The final output includes the following fields:

- post_type
- total_reach
- reach_percentage

```
WITH reach_cte AS (  
    SELECT  
        post_type,  
        SUM(reach) AS total_reach  
    FROM fact_content  
    GROUP BY post_type  
)  
SELECT  
    post_type,  
    total_reach,  
    ROUND((total_reach * 100.0) / (SELECT SUM(total_reach) FROM reach_cte), 2) AS reach_percentage  
FROM reach_cte  
ORDER BY reach_percentage DESC;
```

post_type	total_reach	reach_percentage
IG Reel	5379091	61.63
IG Image	1866381	21.38
IG Video	1422300	16.30
IG Carousel	60465	0.69

VISUAL-7



- **Reels Dominate Reach:** IG Reels have the highest total reach (5,379,091) and account for 61.63% of the total reach.
- **Images and Videos Perform Moderately:** IG Images (21.38%) and IG Videos (16.3%) contribute significantly but are far behind Reels.
- **Carousels Underperform:** IG Carousels have the lowest reach (0.69%), showing minimal impact.

8.

Create a report that includes the quarter, total comments, and total saves recorded for each post category. Assign the following quarter groupings:

(January, February, March) → “Q1”

(April, May, June) → “Q2”

(July, August, September) → “Q3”

The final output columns should consist of:

post_category

quarter

total_comments

total_saves


```

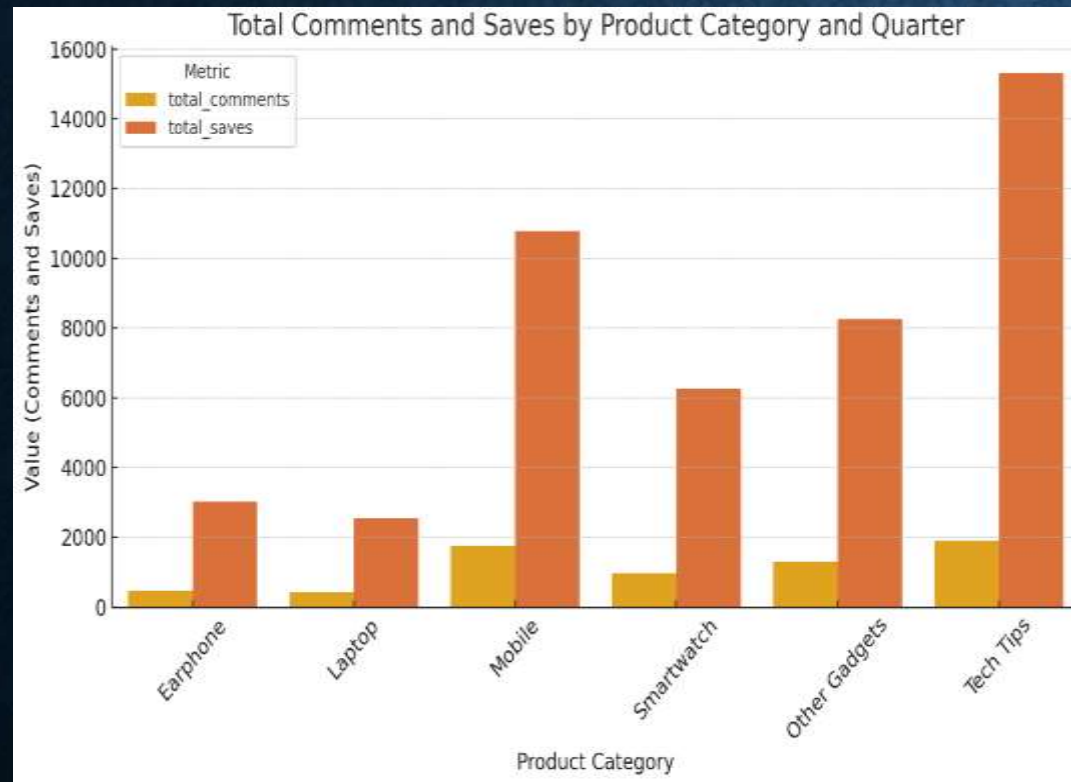
SELECT
    fc.post_category,
    CASE
        WHEN dd.month_name IN ('January', 'February', 'March') THEN 'Q1'
        WHEN dd.month_name IN ('April', 'May', 'June') THEN 'Q2'
        WHEN dd.month_name IN ('July', 'August', 'September') THEN 'Q3'
        ELSE 'Q4'
    END AS quarter,
    SUM(fc.comments) AS total_comments,
    SUM(fc.saves) AS total_saves
FROM fact_content fc
JOIN dim_dates dd ON fc.date = dd.date
GROUP BY post_category, quarter
ORDER BY quarter, post_category;

```

post_category	quarter	total_comments	total_saves
Earphone	Q1	351	2230
Laptop	Q1	418	2837
Mobile	Q1	1836	9843
Smartwatch	Q1	600	2860
Earphone	Q2	589	3602
Laptop	Q2	452	2248
Mobile	Q2	2313	17207
Other Gadgets	Q2	1622	12041
Smartwatch	Q2	1358	12581
Tech Tips	Q2	2201	17649
Earphone	Q3	427	3247
Mobile	Q3	1134	5285
Other Gadgets	Q3	964	4457
Smartwatch	Q3	971	3326

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VISUAL-8



- **Tech Tips Lead in Q2 and Q3:** "Tech Tips" dominate in comments (2,201 in Q2, 1,596 in Q3) and saves (17,649 in Q2, 12,976 in Q3).
- **Mobile Stays Consistent:** "Mobile" posts have high engagement across all quarters, with increasing comments (1,836 to 2,313) and saves peaking in Q2 (17,207).
- **Other Gadgets and Smartwatch Grow:** Both categories see significant engagement in Q2 compared to Q1, especially "Other Gadgets" with 12,041 saves.

9. List the top three dates in each month with the highest number of new followers. The final output should include the following columns:

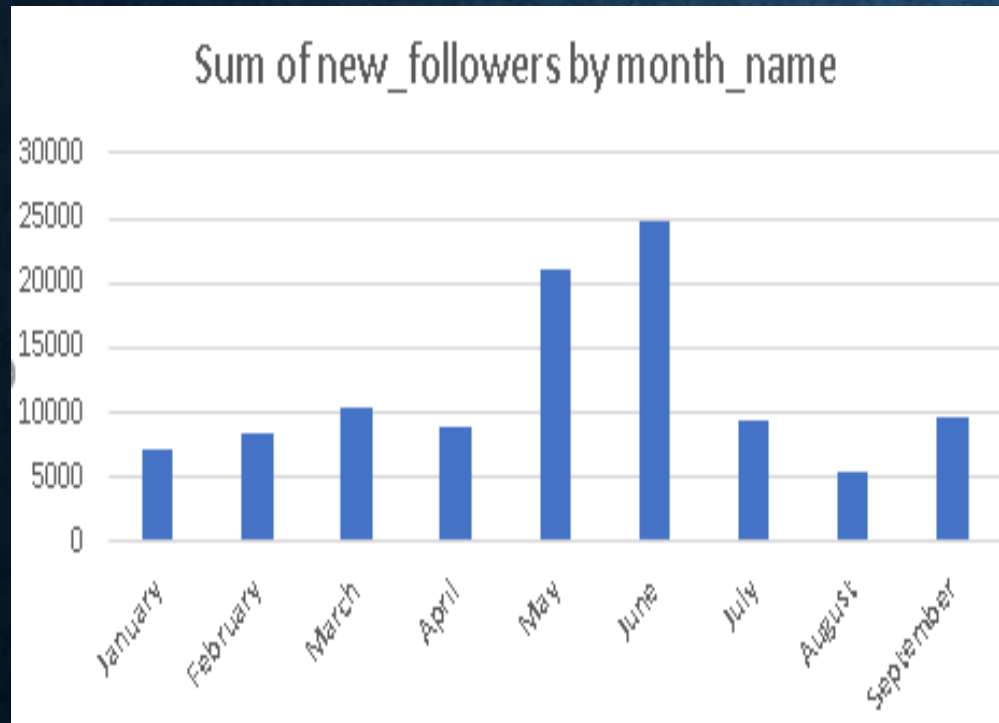
month
date
new_followers

```
WITH ranked_followers AS (  
    SELECT  
        dd.month_name,  
        DATE(fa.date) AS date,  
        fa.new_followers,  
        ROW_NUMBER() OVER (PARTITION BY dd.month_name ORDER BY fa.new_followers DESC) AS rn  
    FROM fact_account fa  
    JOIN dim_dates dd ON fa.date = dd.date  
    GROUP BY dd.month_name, fa.date, fa.new_followers  
)  
SELECT  
    month_name,  
    date,  
    new_followers  
FROM ranked_followers  
WHERE rn <= 3  
ORDER BY month_name, new_followers DESC;
```

month_name	date	new_followers
April	2023-04-25	3736
April	2023-04-30	2753
April	2023-04-06	2500
August	2023-08-23	2074
August	2023-08-21	1783
August	2023-08-06	1687
February	2023-02-01	4106
February	2023-02-24	2383
February	2023-02-02	1989
January	2023-01-30	3186
January	2023-01-03	2959
January	2023-01-23	1003
July	2023-07-08	3716
July	2023-07-15	3364

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VISUAL-9



- **June had the highest new followers:** June saw the largest number of new followers.
- **April and July had consistent new followers:** Both April and July showed a steady stream of new followers throughout the month.

10. Create a stored procedure that takes the 'week_no' as input and generates a report displaying the total shares for each 'post_type'. The output of the procedure should consist of two columns:

post_type
total_shares

```
CREATE PROCEDURE GetSharesByWeek(IN week_no_input VARCHAR(255))
BEGIN
    SELECT
        fc.post_type,
        SUM(fc.shares) AS total_shares
    FROM fact_content fc
    JOIN dim_dates dd ON fc.date = dd.date
    WHERE dd.week_no = week_no_input
    GROUP BY fc.post_type
    ORDER BY total_shares DESC;
END;
```

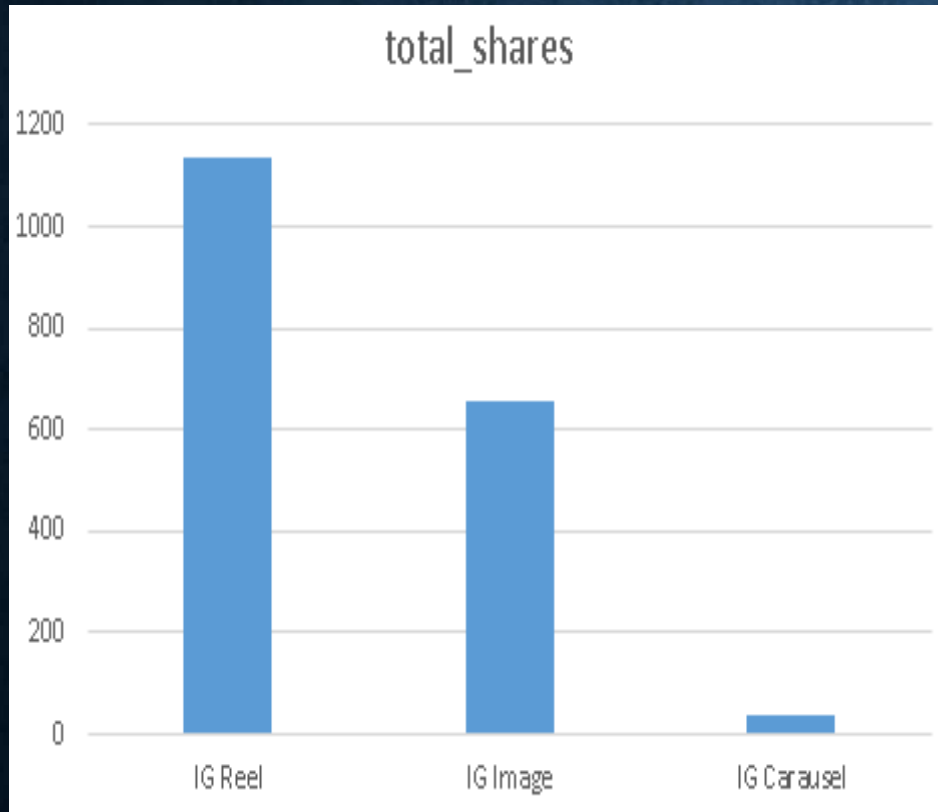
Call stored procedure gdb0120.GetSharesByWeek

Enter values for parameters of your procedure and click <Execute> to create an SQL editor and run the call:

week_no_input [IN] VARCHAR(255)

	post_type	total_shares
	IG Image	1134
	IG Reel	659
	IG Carousel	40

VISUAL-10



- **Reels Get the Most Shares:** IG Reels lead with 1,134 total shares, showing strong engagement.
- **Images Perform Moderately:** IG Images have 659 shares, performing better than Carousels but far behind Reels.
- **Carousels Have Minimal Shares:** IG Carousels lag significantly with only 40 shares.



THANK YOU!

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