OPERATION AND METRIC ANALYTICS PROJECT

PROJECT DESCRIPTION- This project is about to track the consumer behaviour and pattern of using the one the giant event company . During the project I gain some enormous knowledge and learned some analytical process for tracking the consumer pattern. During this project I am able to track the behaviour of user's engagement and interaction with the digital platform.

Approach- I take mysql workbench platform for deriving some business insight to help my firm in their marketing, production and development for the upcoming new product. I used my analytical thinking and some own personal experience for making this project.

Tech -stack used-I used latest version of MYSQL Workbench and NOTEPAD++ for this project.

Insight- This project provides me immense knowledge about the job role of data analytics, how a data analytics should work to derive the meaningful business insights for their company. I learn the responsibility and importance of this analytics process for a company for their business growth.

Result-This project give me a futuristics view about the responsibility and importance role of data analytics, definitely it will help me in future for my working career in a company for the role of data analytics.

Case Study 1 (Job Data)

A. Number of jobs reviewed: Amount of jobs reviewed over time.
Your task: Calculate the number of jobs reviewed per hour per day for November 2020?

QUERY- select ds, count(job_id) as num_of_jobs, 1/3600*sum(time_spent) as total_time from job_data group by ds;

B. Throughput: It is the no. of events happening per second.
Your task: Let's say the above metric is called throughput. Calculate 7 day rolling average of throughput? For throughput, do you prefer daily metric or 7-day rolling and why?

QUERY- select event, 7*avg(time_spent) as avg_event_happening from job_data group by event order by avg_event_happening desc ;

I prefer 7 day rolling because from observation its gives better analysing in term of better result .

C. Percentage share of each language: Share of each language for different contents.
Your task: Calculate the percentage share of each language in the last 30 days?

QUERY- select event, language, count(language) as num_of_language, language*100/(select sum(language) as s from job_data)
as 'percentage' from job_data group by language ;

D. Duplicate rows: Rows that have the same value present in them.
Your task: Let's say you see some duplicate rows in the data. How will you display duplicates from the table?

QUERY-- SELECT ds, COUNT(ds) as ds_dup,

job_id, COUNT(job_id) as job_dup,

event, COUNT(event) as event_dup,

language, COUNT(language) as language_dup,

org, COUNT(org) as org_dup

FROM job_data GROUP BY ds ,job_id ,event,language,org

HAVING COUNT(ds) > 1

AND COUNT(job_id) > 1

AND COUNT(event) > 1

AND COUNT(language) > 1

AND COUNT(org) > 1;

Case Study 2 (Investigating metric spike)

A. User Engagement: To measure the activeness of a user. Measuring if the user finds quality in a product/service.
Your task: Calculate the weekly user engagement?

QUERY- SELECT WEEK (activated_at) AS WEEK,

COUNT (user_id) AS WUE

FROM users

GROUP BY WEEK (activated_at);

B. User Growth: Amount of users growing over time for a product.
Your task: Calculate the user growth for product?

QUERY- select user_id, count(user_id) as num_of_users, occurred_at, event_type, event_name from events group by event_name;

C. **Weekly Retention: Users getting retained weekly after signing-up for a product.**
Your task: Calculate the weekly retention of users-sign up cohort?

QUERY-
```
SELECT WEEK (occurred_at) AS WEEK,
    COUNT(user_id) AS num_of_users_weekly_retained
    FROM  events
    GROUP BY WEEK (occurred_at);
```

D. **Weekly Engagement: To measure the activeness of a user. Measuring if the user finds quality in a product/service weekly.**
Your task: Calculate the weekly engagement per device?

QUERY-
```
SELECT device, COUNT(user_id) AS
num_of_users_per_device_weekly,
    WEEK (occurred_at) AS WEEK
    FROM  events
    GROUP BY (device);
```

E. **Email Engagement: Users engaging with the email service.**
Your task: Calculate the email engagement metrics?

QUERY-
```
SELECT action,  user_type, COUNT(user_id) AS
num_of_users_engaging_with_email
FROM  email_events  GROUP BY action, user_type;
```