

Problem Statement 1

id	userId	total	created
194	330	4760	01/03/2021 14:22
201	142	10395	01/03/2021 14:22
208	324	10395	01/03/2021 14:22
215	258	4165	04/02/2021 14:22
222	232	2940	05/02/2021 14:22
229	157	3290	06/02/2021 14:22
236	189	2730	07/03/2021 14:22
243	57	17850	08/04/2021 14:22
250	257	4830	09/04/2021 14:22
257	95	2093	10/04/2021 14:22
264	293	11970	11/03/2021 14:22

Data Definitions:

1. Id - Primary Key for Table
2. UserId - Unique Id for every users
3. Total - Total amount spent on each order
4. Created - Timestamp for order created

Q1. We need SQL query to identify weekly Retention for Users from their first created order Week in the following format.

(Kindly mention if any assumptions are made)

[illegible]

Problem Statement 2

A company record its employees movement In and Out of office in a table with 3 columns (Employee id, Action (In/Out), Created)

Data structure:		
Employee id	Action	Created
1	In	2019-04-01 12:00:00
1	Out	2019-04-01 15:00:00
1	In	2019-04-01 17:00:00
1	Out	2019-04-01 21:00:00
2	In	2019-04-01 15:00:00
2	Out	2019-04-01 17:00:00
3	In	2019-04-01 21:00:00
4	In	2019-04-01 15:00:00
5	In	2019-04-01 17:00:00
5	Out	2019-04-01 21:00:00
5	In	2019-04-02 08:00:00
6	In	2019-04-02 10:00:00

This is sample data and consider we have millions of such rows till current date.

- First entry for each employee is “In”**
- “In” is succeeded by an “Out” and vice versa**
- No data gaps and, employee can work across days (eg. an employee can work for 3 continuous days if needed)**

Q1. Find number of employees inside the Office at current time

Q2. Find number of employees inside the Office at “2021-05-01 19:05:00”

Q3. Measure amount of hours spent by each employee inside the office since the day they started (Account for current shift if she/he is working)

Q4. Measure amount of hours spent by each employee inside the office between “2021-04-01 14:00:00” and “2021-04-02 10:00:00”

Problem Statement 3:

In Sri Mandir App certain metrics are being tracked for user activities over the App in different tables :

[See the Spreadsheet](#)

All the analysis are done on device id and user can only claim if he is logged in the app, rest all features are allowed for non logged in user :

- Q1. DAU who clicked on Flower Icon on Mandir Home %
- Q2. DAU who Offered at least 1 Flower %
- Q3. DAU who claimed at least 1 Flower %
- Q4. DAU who clicked on Locked Flowers %

DAU: Daily Active Users

- We would also like to see the further insights/Path to Analysis that we can follow to verify the success/failure of this feature.
- Any Assumptions made to drive the analysis are most welcome.