

Advanced SQL practise questions.

Problem 1:

I have below table, of ICC cricket matches, I need to get team name, number of matches played, number of wins and number of loses on country level.

Team_1	Team_2	Winner
India	SL	India
SL	Aus	Aus
SA	Eng	Eng
Eng	NZ	NZ
Aus	India	India

Solution:

```
select * from icc_world_cup;
select players, count(1) as num_matches_played, sum(fl_won) as num_matches_won, count(1) - sum(fl_won) as num_matches_lost
from(
select team_1 as players, case when Winner = Team_1 then 1 else 0 end as fl_won from icc_world_cup
union all
select Team_2 as players, case when Winner = Team_2 then 1 else 0 end as fl_won from icc_world_cup) a
group by 1;
```

players	num_matches_played	num_matches_won	num_matches_lost
India	2	2	0
SL	2	0	2
SA	1	0	1
Eng	2	1	1
Aus	2	1	1
NZ	1	1	0

Problem 2:

Find number of new customers and repeat customers from customers orders table. Output should be order_date, #new_customers, #repeat_customers.

order_id	customer_id	order_date	order_amount
1	100	2022-01-01	2000
2	200	2022-01-01	2500
3	300	2022-01-01	2100
4	100	2022-01-02	2000
5	400	2022-01-02	2200
6	500	2022-01-02	2700
7	100	2022-01-03	3000
8	400	2022-01-03	1000
9	500	2022-01-03	2000

solution:

```
with new as(
select customer_id, order_date,
min(order_date) over(partition by customer_id order by order_date) as first_order
from customer_orders)
select order_date,
count(case when order_date = first_order_date then customer_id end) as num_ne
```

count(case when order_date != first_order_date then customer_id end) as num_re
from new group by 1

order_date	num_new_customers	num_repeat_customers
2022-01-01	3	0
2022-01-02	2	1
2022-01-03	1	2

Problem 3:

In a company, employee can enter only once using their mail. But there is a loophole, they can give another mail id and enter. we want to know for each employee, number of times entered, floor that they entered maximum and all names of the floor entered.

name	address	email	floor	resources
A	Bangalore	A@gmail.com	1	CPU
A	Bangalore	A1@gmail.com	1	CPU
A	Bangalore	A2@gmail.com	2	DESKTOP
B	Bangalore	B@gmail.com	2	DESKTOP
B	Bangalore	B1@gmail.com	2	DESKTOP
B	Bangalore	B2@gmail.com	1	MONITOR

solution:

```
with a as (
select name, floor,
rank() over(partition by floor order by count(1) desc) as rnk
from entries
group by 1,2)
```

```

select a.name, a.floor as max_visited,
count(a.name) as num_times_visited,
group_concat(distinct resources separator ',') as floors_visited
from a
join entries b on a.name = b.name
where a.rnk = 1
group by 1,2;

```

name	max_visited	num_times_visited	floors_visted
A	1	3	CPU,DESKTOP
B	2	3	DESKTOP,MONITOR

Problem 4:

write a query to provide the date for nth occurence of sunday in future from given date.

Solution:

```

SET @given_date = '2025-03-30';
SET @n = 2;

-- Find the next Sunday
SET @days_to_sunday = (6 - WEEKDAY(@given_date)) % 6;
-- Calculate the nth Sunday from the given date
SELECT @given_date AS given_date,
@days_to_sunday,
WEEKDAY(@given_date) AS weekday_of_given_date,
DATE_ADD(@given_date, INTERVAL @days_to_sunday + (@n - 1) * 7 DAY) AS
nth_sunday_date;

```

given_date	@days_to_sunday	weekday_of_given_date	nth_sunday_date
2025-03-30	0	6	2025-04-06