Window functions

Sales

Country	Date	Sales
IND	13-Jun	200
USA	12-June	300
IND	12-June	500
USA	14-June	200
USA	13-June	100
IND	15-June	600

Q.) Write an SQL to Calculate total Sales made in each country?

A) Select Country, Sum(Sales)
from Sales
Group By Country;

Output

Country	Total_Sales
IND	1300
USA	600

Syntax of Window functions

fun_name() over (Partition By Col1 Order By Col1)

↓

→ Count()

→ Sum(), Min(), Max(), Avg()

→ Row_Number()

→ Rank()

→ Dense_Rank()

→ Lead()

→ Lag()

→ First_Value()

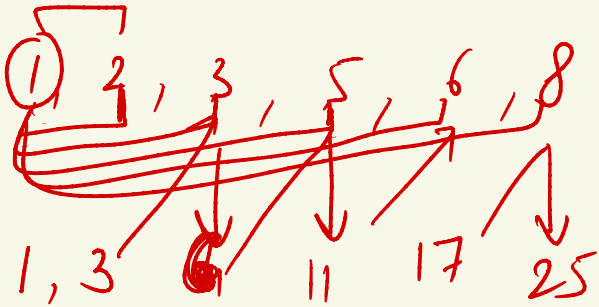
→ Last_Value()

query with window function?

```
select *,
sum(sales) over(Partition By Country)
as total_sales
from sales;
```

Output

	Country	date	Sale	total_sale	
P1	IND	12-J	500	1300	→ W1
	IND	13-J	200	1300	
	IND	15-J	600	1300	
P2	USA	12-J	300	600	→ W2
	USA	13-J	100	600	
	USA	14-J	200	600	



Row_Number, Rank, Dense_Rank Differences

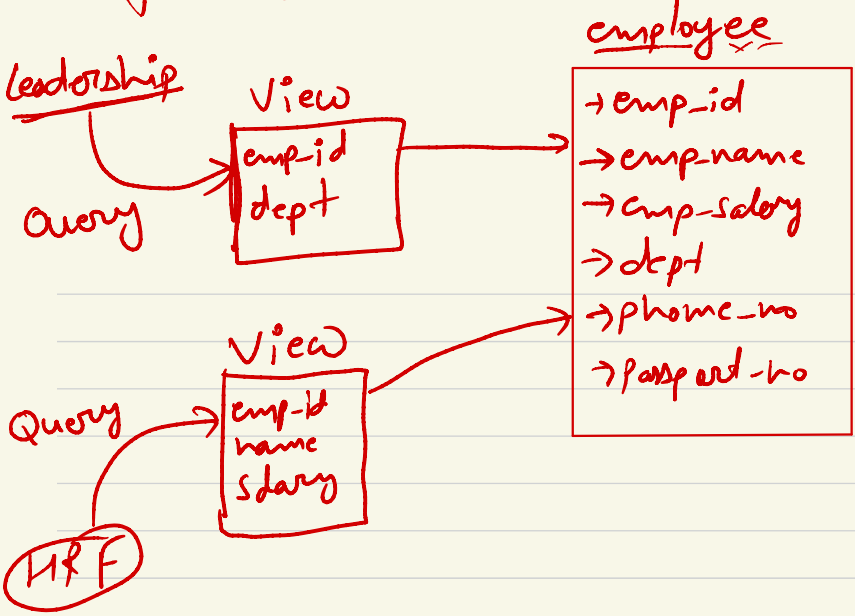
students

stu_id	marks	row_n	rnk	d_rnk
100	90	1	1	1
101	88	2	2	2
202	88	3	2	2
→ 205	80	4	4	3
109	75	5	5	4
108	75	6	5	4
105	75	7	5	4
207	60	8	8	5
209	60	9	8	5

```
Select *,
row_number() over(order by marks desc) as row_n,
rank() over(order by marks desc() as rank,
dense_rank() over(order by marks desc) as d_rank
from
students;
```

id	Col1	Col2	Col3	not_null_data
1	null	500	null	500
2	null	null	100	100
3	null	null	null	0
4	200	null	null	200
5	null	400	null	400

Coalesce(Col1, Col2, Col3, 0)

Views

- They are like virtual table
- They do not occupy any space in the memory.
- Basically to hide the implementation from end user.