

→ Common Core Tools

- ✓ 1. SQL ✓
  - 2. Git / GitHub ✓
  - ✓ 3. Tableau ✓
- } 3
- 12 LP

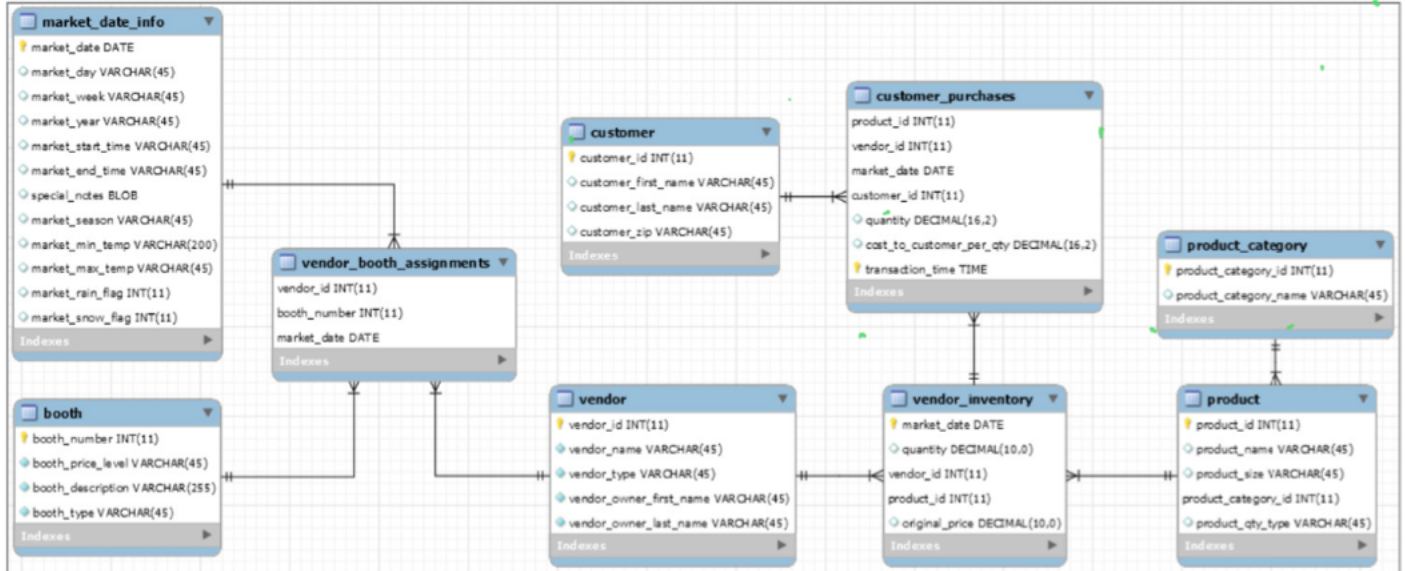
# Intro to Databases & SQL

PS :

1. Reliance Fresh (Data Analyst)
2. Markets (Big stores) — Mandi

→ 3. All the data is stored in a DBMS.

4. DB schema - How the data is stored.



# 1. What is this DBMS?



Database : A collection of interrelated tables.

Management System : A set of operations that help you manage the DB.

Customer Table

C-ID	Name	Age	Add.
1.	Radhika	25	—
2.	Rithik	24	—

Operations

→ CRUD → Delete.  
↓  
Create Read Update

→ Search

→ Grant/Revoke

ORDERS

O-ID	C-ID	P-ID	Price
		1	

PRODUCT Table

P-ID	P.Name	P.Desc.	Cost.
1	Canon	—	—
2	iphon	—	—
3.	Sony TV	—	—

→ Tables are also called Relations. Relational Algebra

DBMSs → Relational DBMS

## RDBMS

### Non-Relational DBMS.

✓ Aadhar Card → PK? ✓

1B

1.4B

400M → NULL



### Types of Relationships

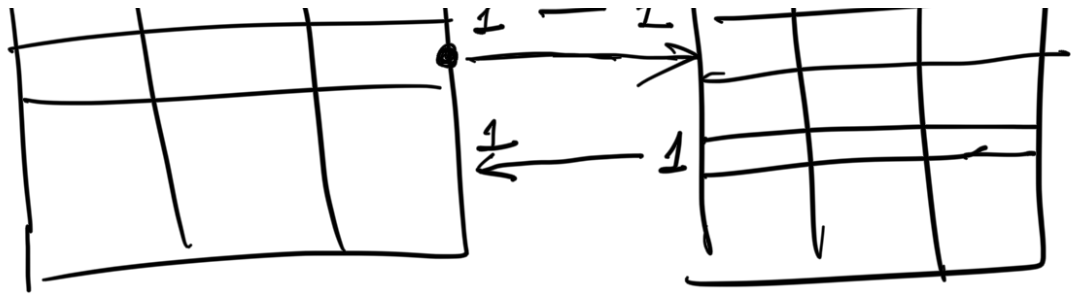
① One - to - One

② One - to - Many | May-to-One

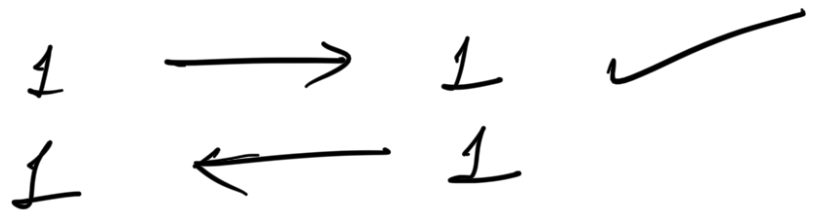
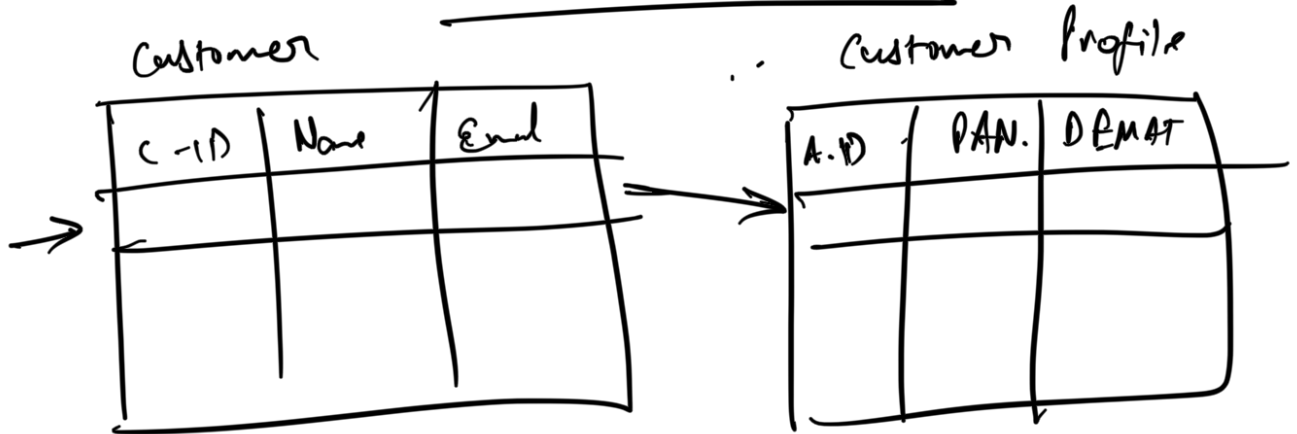
③ Many - to - Many

① One - to - One



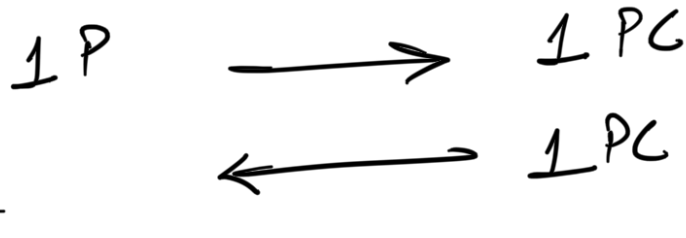
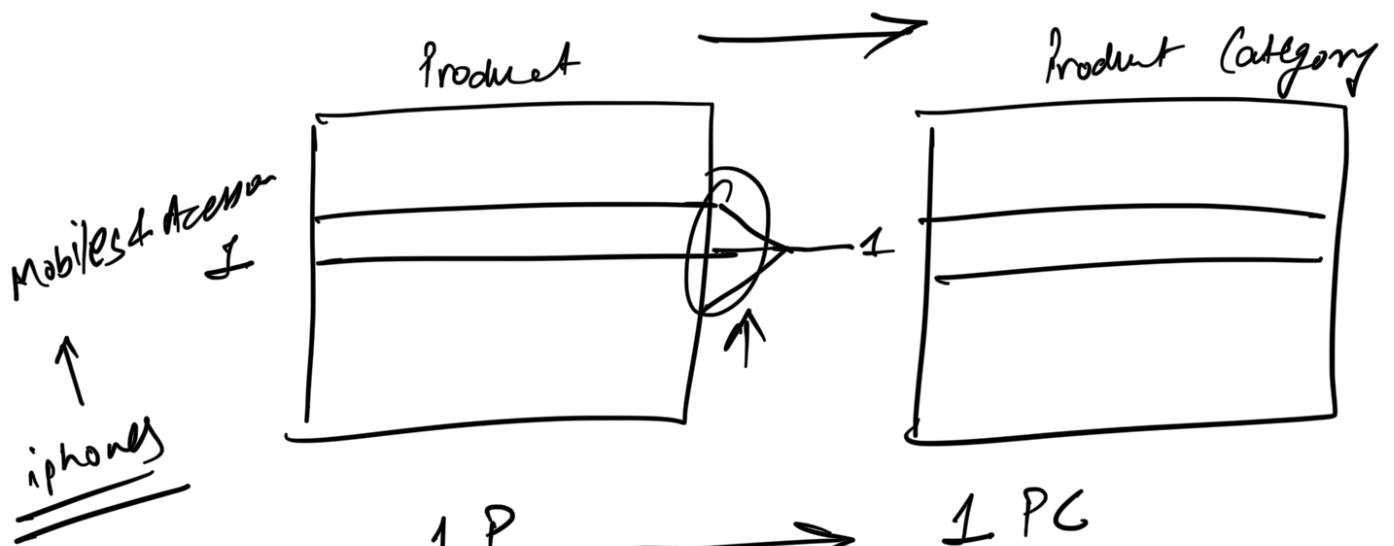


One - to - One



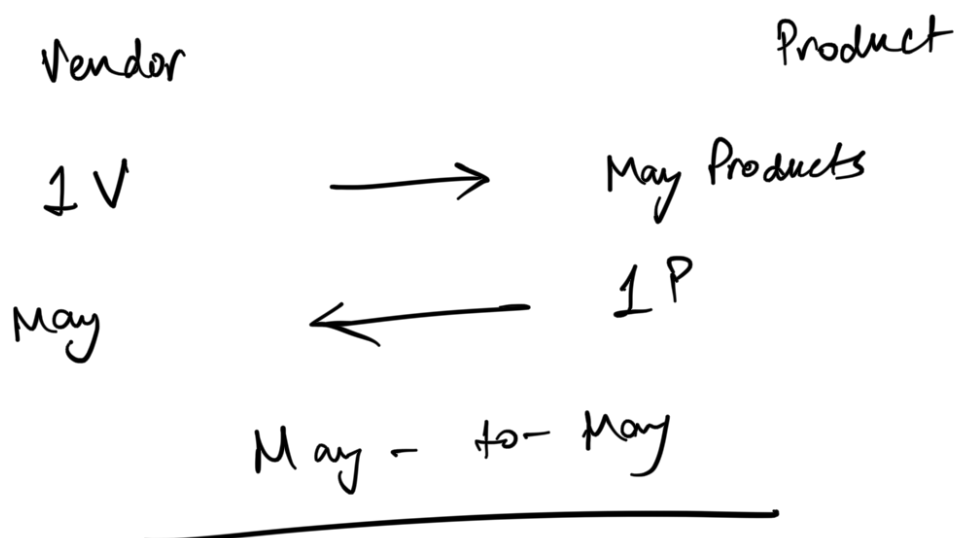
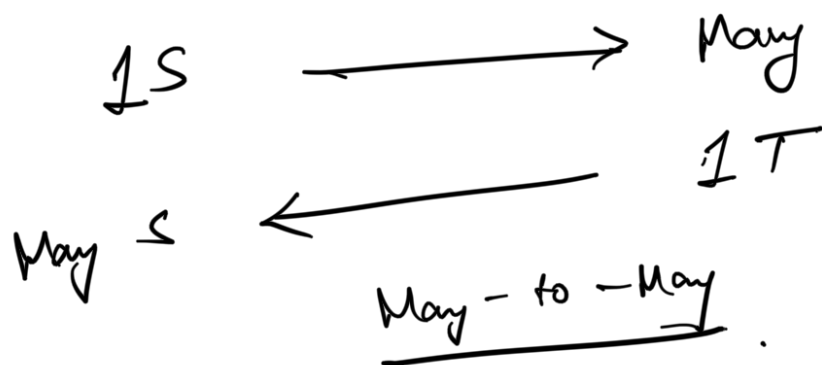
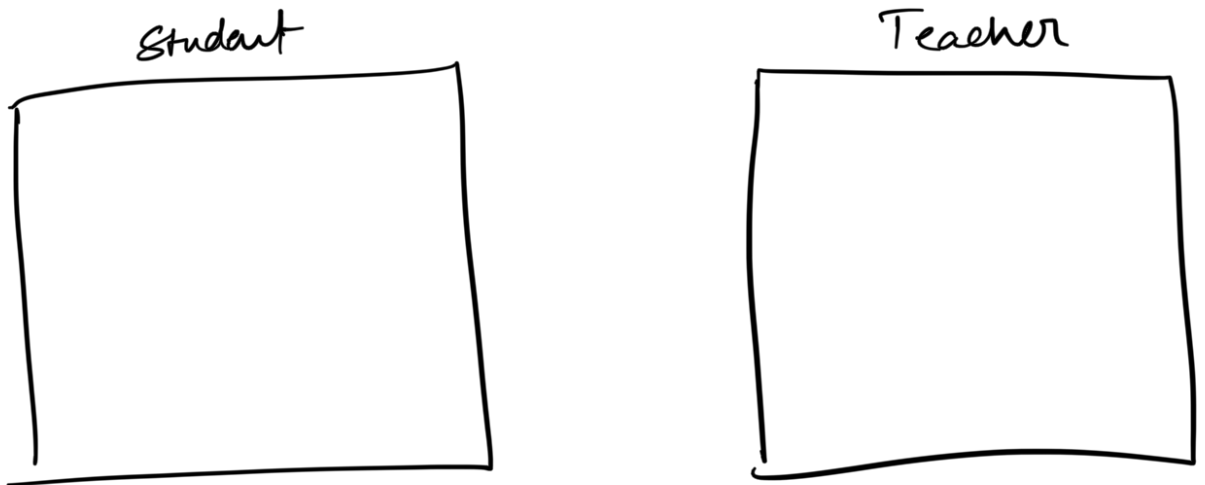
②

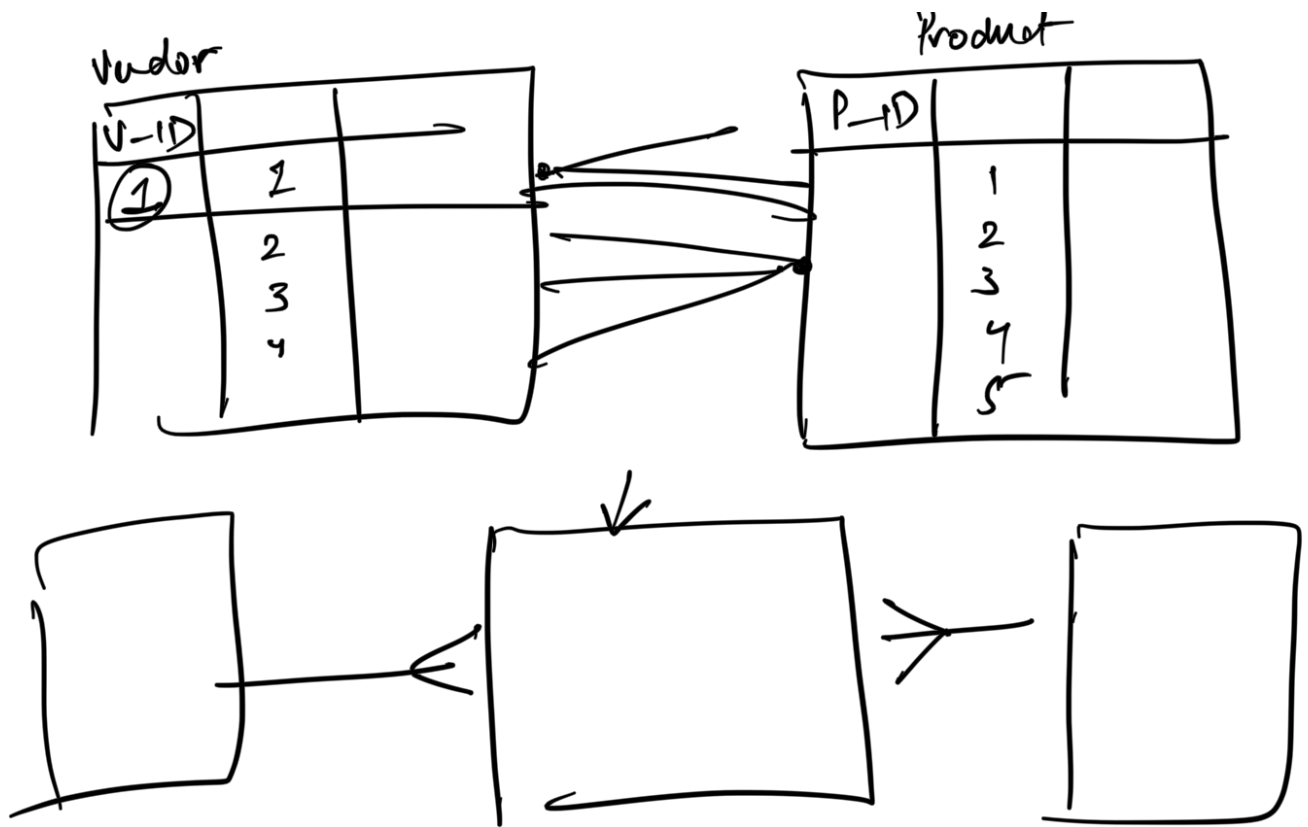
One - to - Many ✓



Many - to - One

③ Many - to - Many

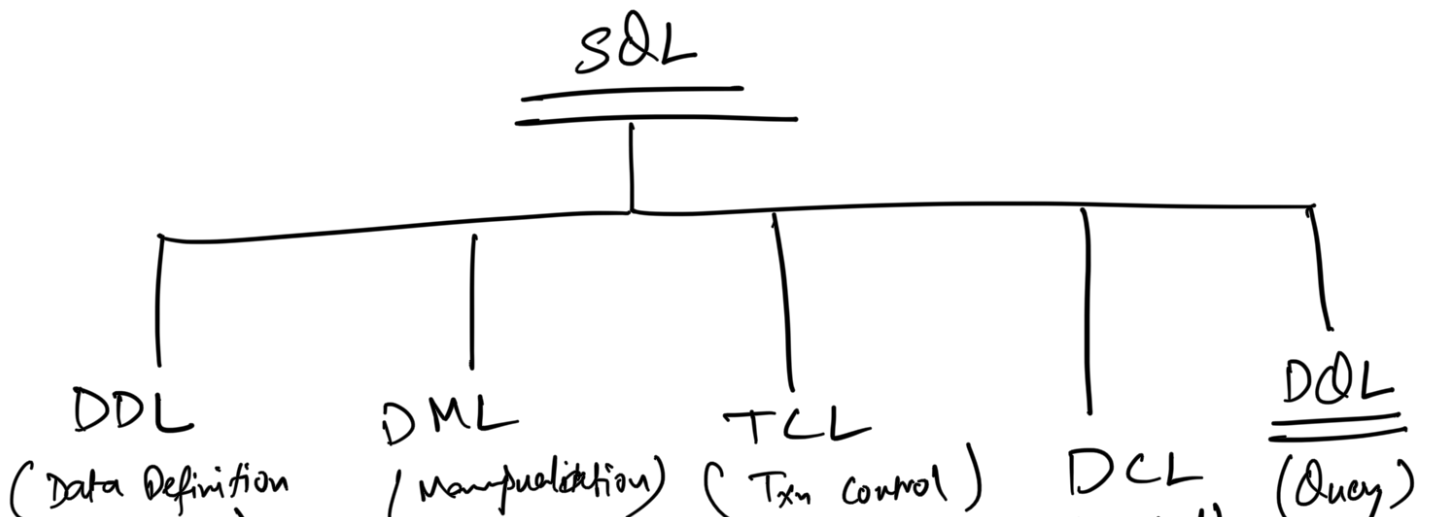




## Entities

Schema → ER Diagram

SQL → Structured Query Language



log.)			(control)	✓
— Create	— Insert	— Commit	— Grant	— <u>SELECT</u>
— Drop	— Update	— Rollback	— Revoke	
— Alter	— Delete	— <u>Savepoint</u>		
— Truncate	— Explain			

Q1. Extract all the products in the market.

SELECT → SQL code that retrieves data from the specified table in the database.

Query Syntax:

SELECT [columns to return]  
 FROM [Table name]  
 x WHERE [conditional statement]  
 ORDER BY [columns to sort on]  
 LIMIT x [first x rows to be returned]  
 ↳ OFFSET



All the columns → —,  
—,  
—,  
→ \* ✓

SELECT \*  
FROM product

SELECT product\_id,  
product\_size,  
product\_name

LIMIT 5 ↓ First 5

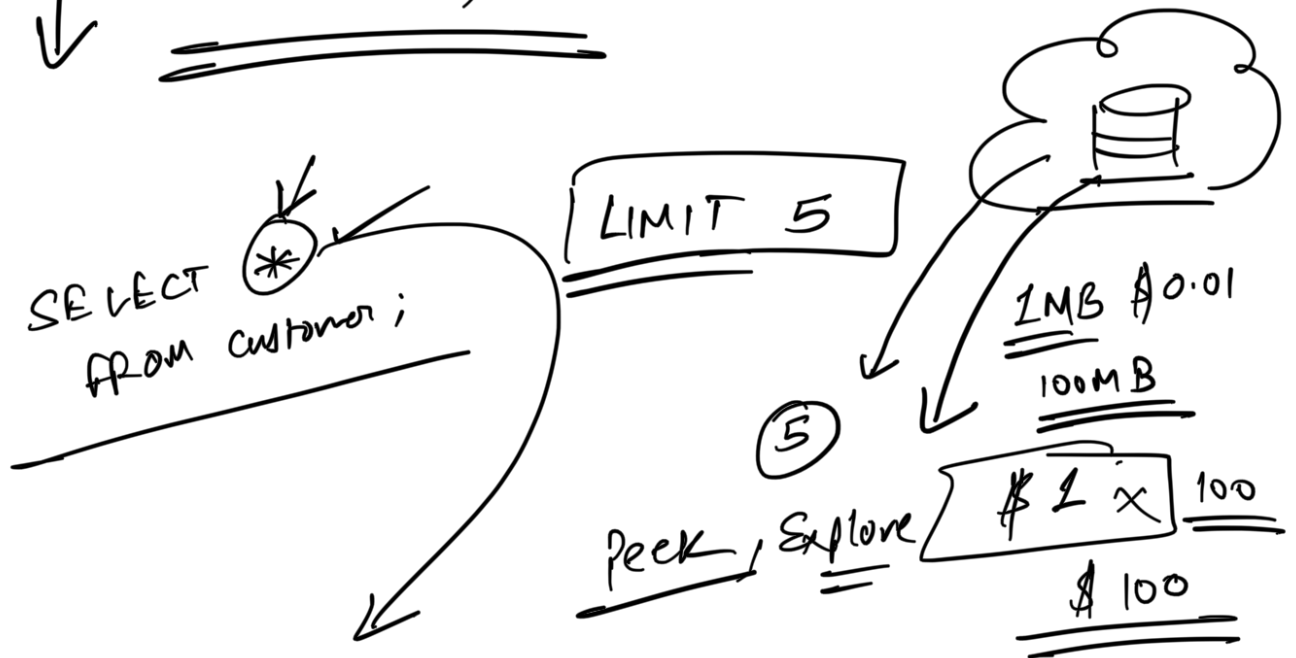
LIMIT 5, 2 → First 5 after skippy  
the first 2

LIMIT 5 OFFSET 2

Q. THIRD HIGHEST Salary.

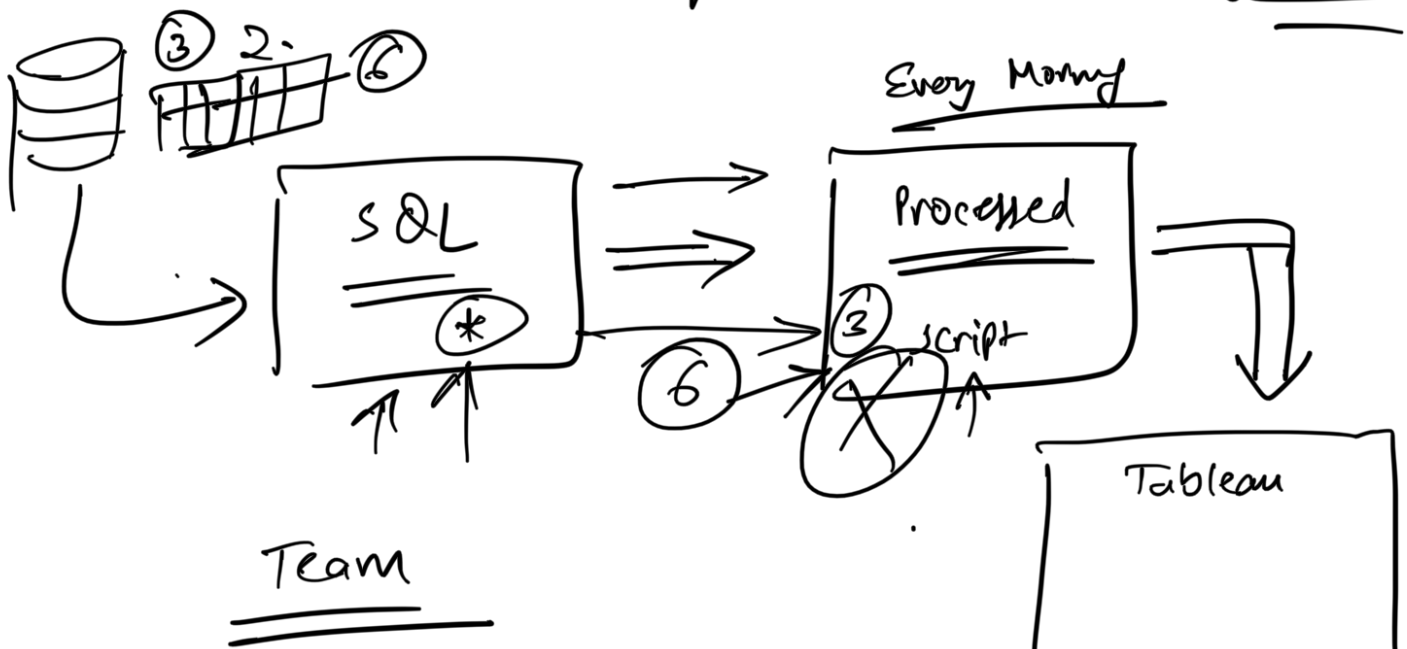
Sort the data DESCENDING  
ORDER

← Top  
 SELECT \*  
 FROM employee  
 ORDER BY salary DESC  
 LIMIT 2, 1  
 ← 3rd highest ←



\* → Bad practice

1. Extra data being transferred. (cost)
2. Write complete names. instead of asterisk



↳ col\_name ← easier to understand

Q. List down 10 rows from vendor\_Booth\_amt

Q. Calculate the total amt. paid by each customer in the purchases table.

SELECT

C-ID,

P-ID

qty,

cost,

qty \* cost\_per\_qty

↑

Multiplication

FROM

	qty	cost	total amt

← Inline calculation

C-ID	P-ID	qty	cost	amt

Aliases

'As'

Function

ROUND (  $\frac{\text{ }{\text{ }}}{\text{ }}$  )

ROUND (10.56789, 2)  
⇒ 10.

- ① — Intro to DBMS & SQL
- ② — Filtering, Wildcard, Case & WHEN Subqueries
- ③ — JOINS
- ✓ ④ — GROUP BY / Agg. ✓
- ⑤ — Window Fns. ✓
- ⑥ — Date & Time — FAANG Interviewing
- ⑦ — CTE, Advanced constructs  
(stored procedures  
Views)  
→ FAANG Q.

CONCAT ( )