

Complete SQL Course: Scalar

* Lesson: 01

Database → collection of stored data

e.g. shopping website

amazon database

stores data of
Customer

can be easily
accessed, managed
& updated

Monitoring &
optimizing of
database is →
important for application
performance

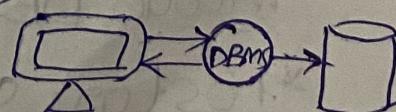
* Database Management System

Software System

used for

manage & manipulate
data in db.

comes as
interface



btw end user & database
allow users → create, update,
read & delete data in db

Lesson : 02

* Types of Databases

Relational Database

→ contains rows
* columns

NoSQL Databases

→ unstructured data

* according to the type of Database it deals with Relational database management systems.

Relational Database Management Systems

* Microsoft SQL Server

* MySQL

* Maria DB

* PostgreSQL

DBMS

NoSQL Database management Systems

* mongoDB

* redis

* Cassandra

* Firebase

Relational Database

PK	Name	Phone	Action
1			
2			
3			

→ way of representing data in tables.

→ each row in table is a record with unique ID. $\therefore \text{row} \rightarrow \text{record}$ called key.

→ Columns hold attributes of data.

→ relational data model provides individual properties or characteristics.

→ standard way of representing & querying data.

→ used by any application

→ Structured Query Language used

→ relational database example

↓
write query

↓
Data

↓
Databases

A relational 'database' example

ProductID	Product Name	CategoryID	Price
1	jean	1	990
2	Phillips Led	2	220
3	Jumper	2	1500
4	T-shirt	1	499

CategoryID	Category Name	Description
1	Clothing	Clothes for Men & Girls
2	Electronics	Electronic items

the first table → has a link
 with the second table
 i.e CategoryID

the question is why didn't we add up both tables if they are linked

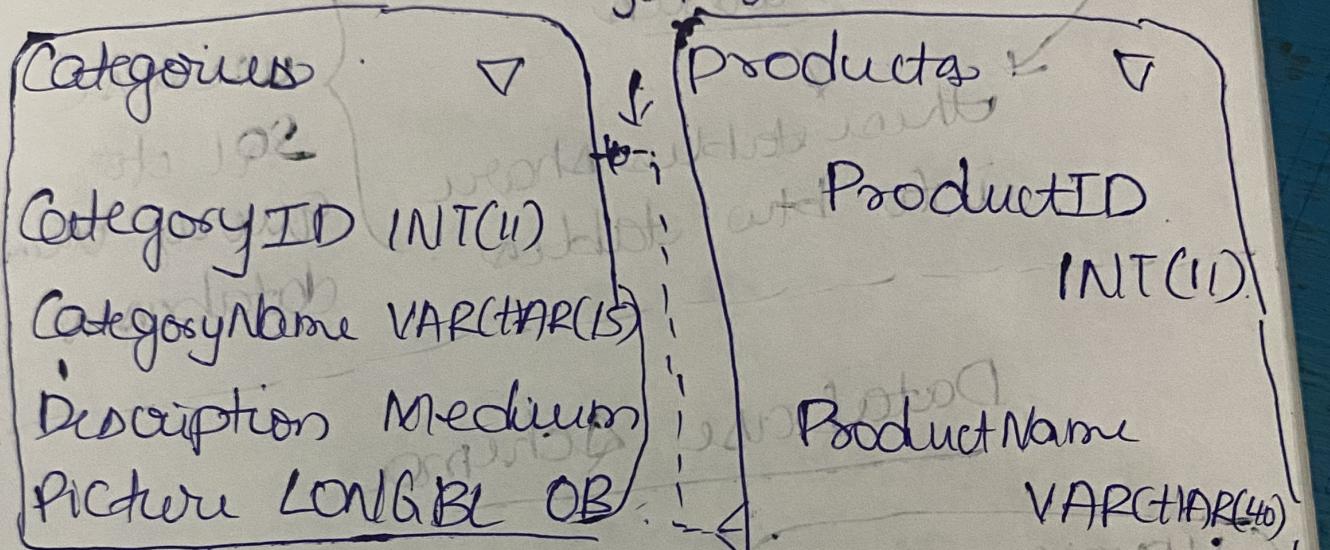
it's because the length of tables increases as well as the storage

link = relation

relation b/w tables

e.g. One to Many Relationship

represents relationship



SupplierID

INT(11)

CategoryID

INT(11)

QuantityPerUnit

VARCHAR
(20)

UnitPrice DECIMAL(10,4)

OnHand SMALLINT(2)

ReorderLevel SMALLINT(2)

Discontinued BIT(1)

Relational (SQL) Database

↓
Relational DB (or) RDBMS

↓
Stores information
in tables

↓
these tables share
info btw tables

} we use
SQL to
query them
databases

Database Schema

Invoice

UNVOICEID INT(11)

UNVOICE Number VARCHAR(50)

UNVOICE Date DATE

CustomerID INT(11)

Customer

CustomerID INT(11)

Customer_FName VARCHAR(50)

Customer_MName VARCHAR(50)

Customer_LName VARCHAR(50)

OrderDetail

OrderID INT(11)

INVOICEID INT(11)

ProductID INT(11)

UnitQty INT(11)

UnitSell Decimal(3,2)

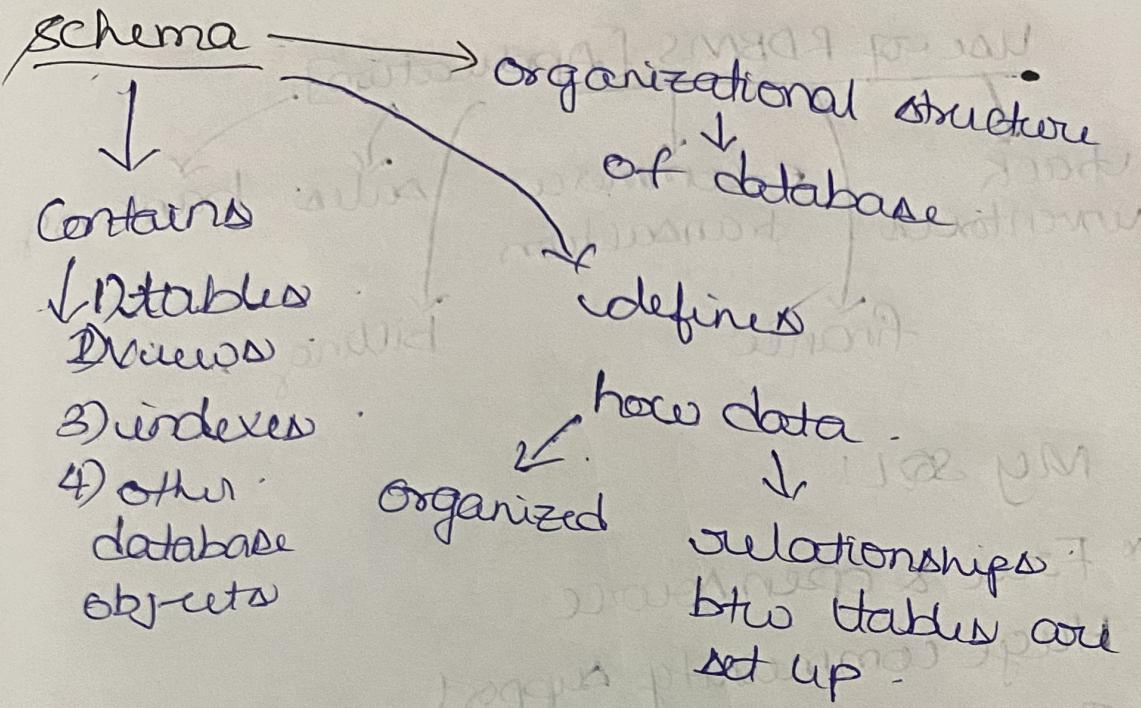
Product

productID INT(11)

ProductAbn

VarChar(50)

Adding up more tables will make you schema



SQL vs NoSQL Databases

SQL db

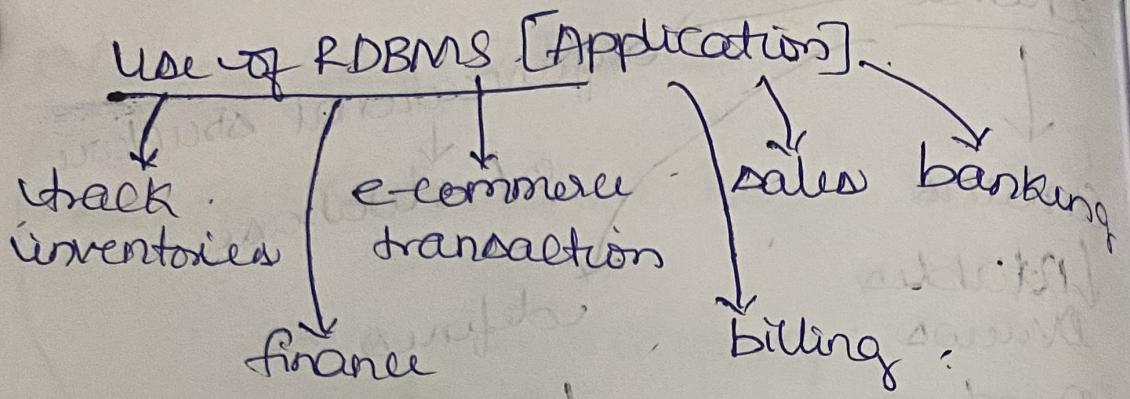
- * relational
- * uses "SQL" (DBMS)
- * has predefined schema
- * has own query language
- * vertically scalable
[adding up more servers]
- * table based,

NoSQL db

- * Non relational.
- * databases are horizontally scalable
- [adding up more machines]

- * document, key-value, graph, multi-column store, basic

- * use storage mod
- optimized for specific requirements of type of data being stored



MySQL

- * Free & open source
- * Huge community support
- * Extensively tested
- * High stability
- * Available for all major platforms
- * Replication & sharding are available
- * Covers a wide range of use cases

Installation & Setup

→ go to [mysql.com](https://dev.mysql.com/downloads) Downloads page
 Download & install following using
 Uninstallation wizard.

LINK: <https://dev.mysql.com/downloads>

- * MySQL Community Server
- * MySQL Workbench