What are Databases?

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WE NEED TO SAVE INFO...

– Maybe files?

WE NEED TO SAVE INFO...

- Maybe files?
- Too big and hard to retrieve and modify data

WE NEED TO SAVE INFO...

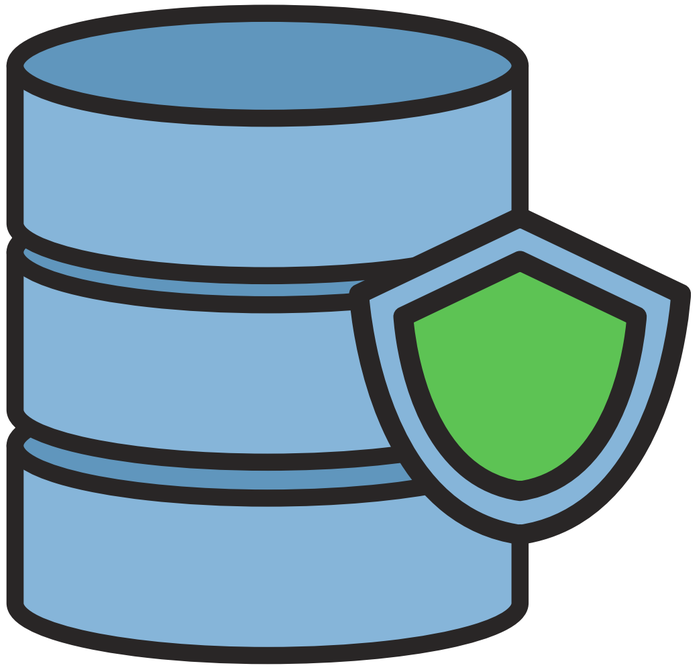
- Maybe tables?
- Then we will have organized collection of structured information

SO DATABASES ARE...

— organized collection of structured information, or data, typically stored electronically in a computer system.

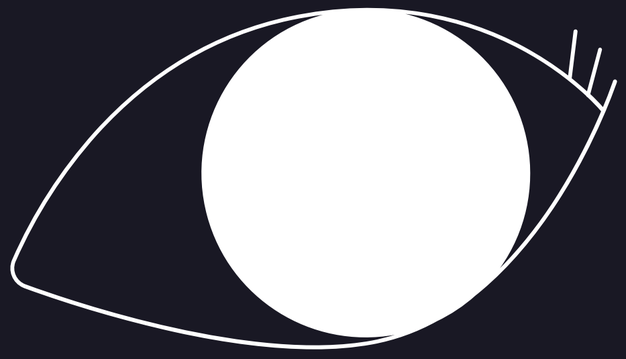
A database is usually controlled by a database management system (DBMS).

Together, the data and the DBMS, along with the applications that are associated with them, are referred to as a database system, often shortened to just database



Tables and columns

employeeNumb	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
1002	Murphy	Diane	x5800	dmurphy@classicmodelcars.com	1	NULL	President
1056	Patterson	Mary	x4611	mpatterso@classicmodelcars.com	1	1002	VP Sales
1076	Firrelli	Jeff	x9273	jfirrelli@classicmodelcars.com	1	1002	VP Marketing
1088	Patterson	William	x4871	wpatterson@classicmodelcars.com	6	1056	Sales Manager (APAC)
1102	Bondur	Gerard	x5408	gbondur@classicmodelcars.com	4	1056	Sale Manager (EMEA)
1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1	1056	Sales Manager (NA)
1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep
1166	Thompson	Leslie	x4065	lthompson@classicmodelcars.com	1	1143	Sales Rep
1188	Firrelli	Julie	x2173	jfirrelli@classicmodelcars.com	2	1143	Sales Rep
1216	Patterson	Steve	x4334	spatterson@classicmodelcars.com	2	1143	Sales Rep
1286	Tseng	Foon Yue	x2248	ftseng@classicmodelcars.com	3	1143	Sales Rep
1323	Vanauf	George	x4102	gvanauf@classicmodelcars.com	3	1143	Sales Rep
1337	Bondur	Loui	x6493	lbondur@classicmodelcars.com	4	1102	Sales Rep
1370	Hernandez	Gerard	x2028	ghernande@classicmodelcars.com	4	1102	Sales Rep
1401	Castillo	Pamela	x2759	pcastillo@classicmodelcars.com	4	1102	Sales Rep
1501	Bott	Larry	x2311	lbott@classicmodelcars.com	7	1102	Sales Rep



STOP! BUT THIS IS MY GOOGLE SPREADSHEET ❎

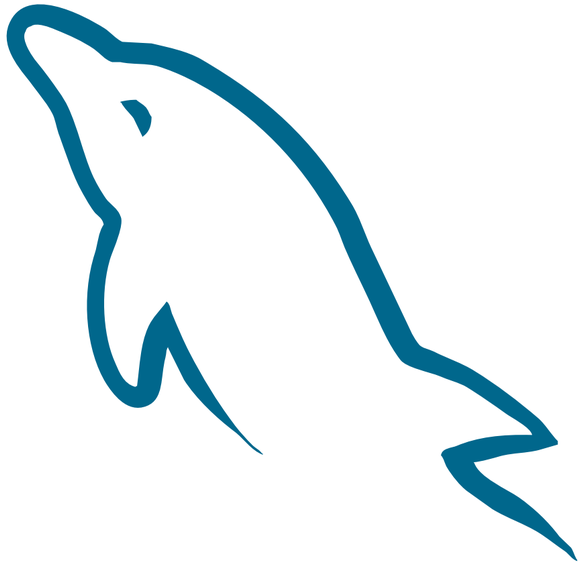
PT Sans © ParaType

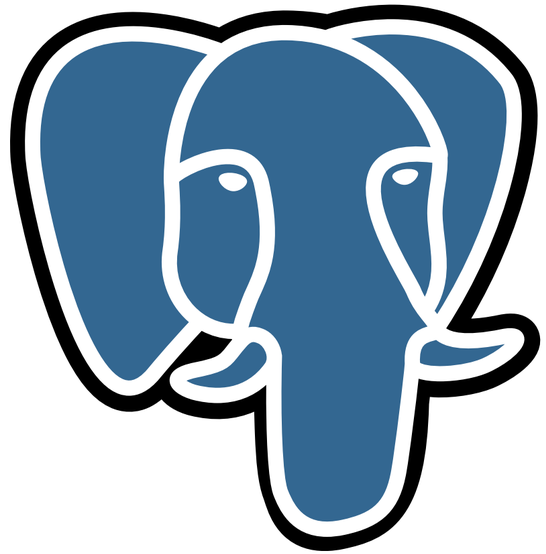
DB'S VS SPREADSHEETS

- Strict data writing and updating via data types
- Multiple updates at a time
- More solid foundation
- range of complexity in terms of data manipulation via SQL

STRUCTURED QUERY LANGUAGE (SQL)

— is a programming language used by nearly all relational databases to query, manipulate, and define data, and to provide access control





DATABASE TYPES AND DIFFERENCES

- Relational databases
  PostgreSQL, MySQL

- NoSQL
  MongoDB, AWS Dynamo, Firebase Realtime / CloudStore

- Graph databases
  Amazon Neptune

Tables

Tables everywhere

Tables, Columns and Types

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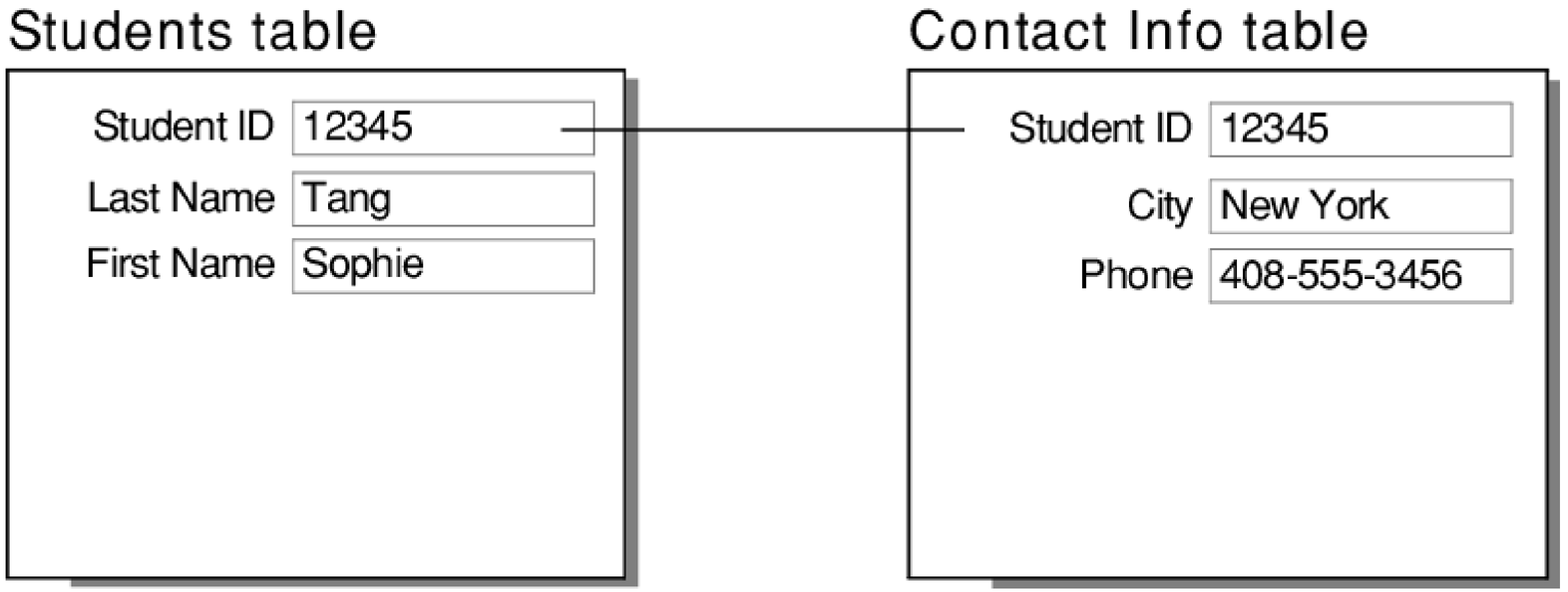
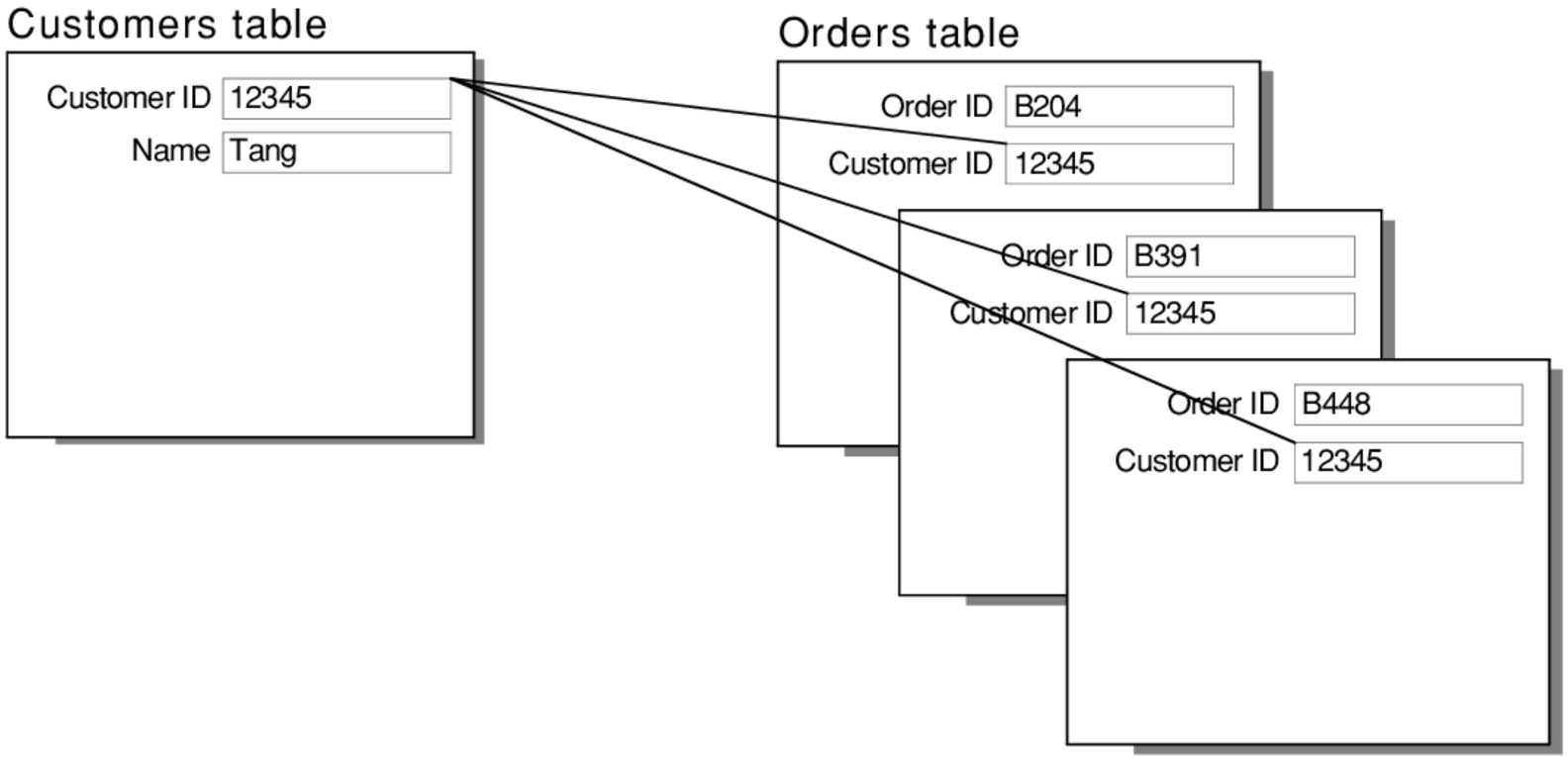
Connections within Tables

One-to-one / Primary key



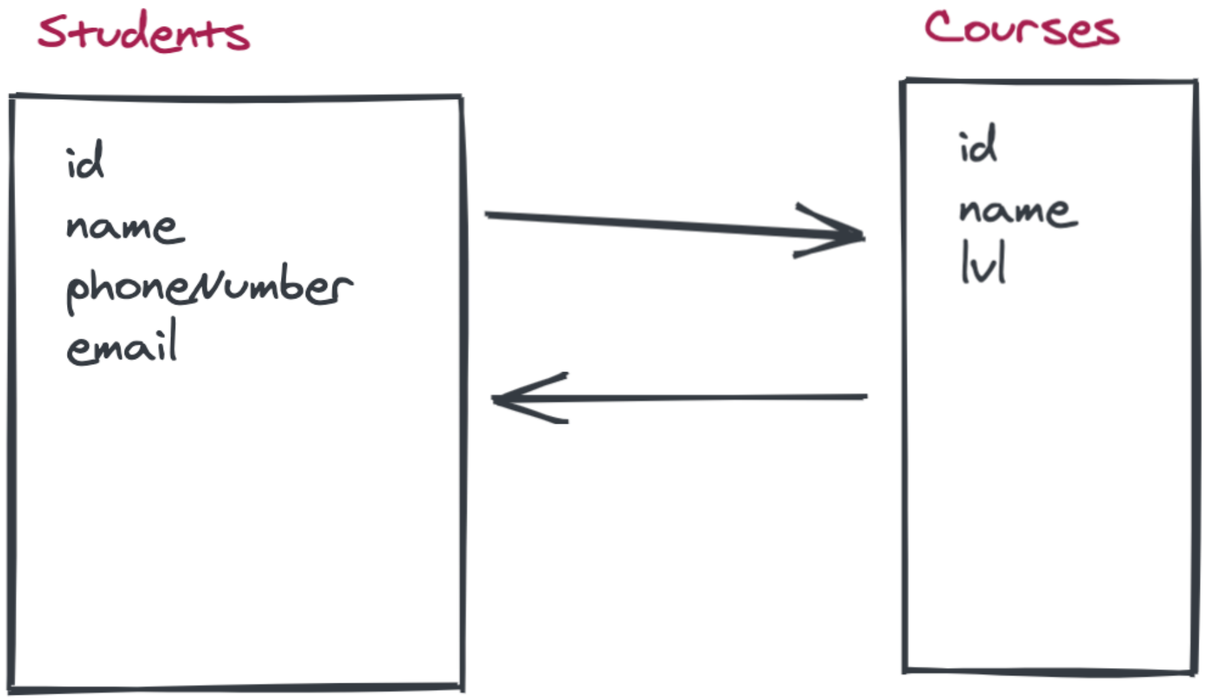
Connections within Tables

One-to-many



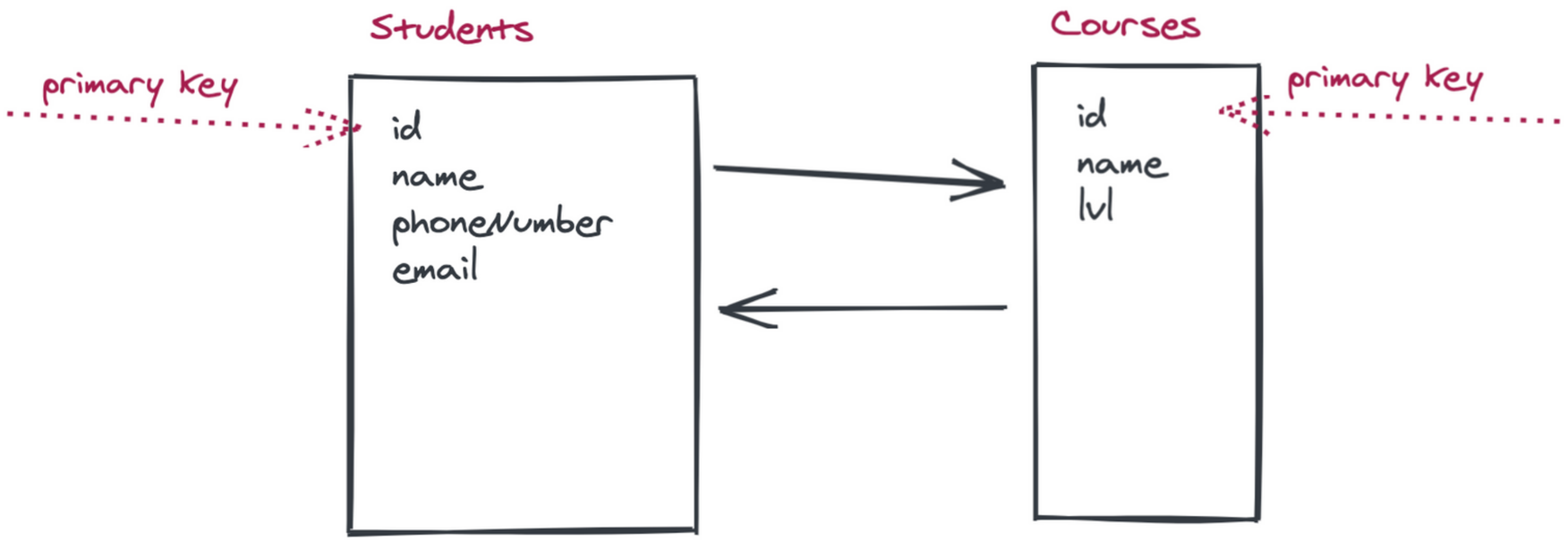
Connections within Tables

Many-to-many



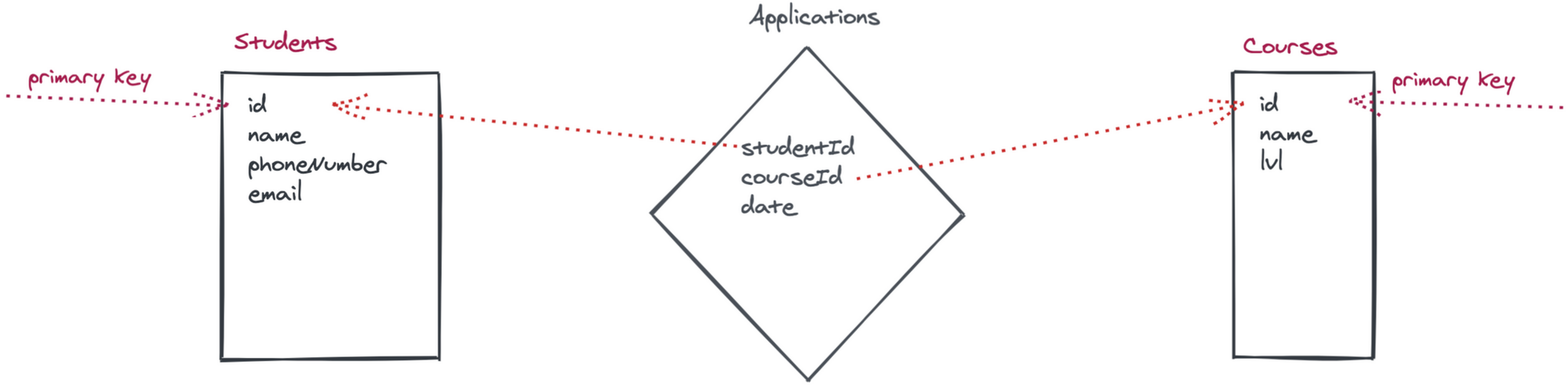
Connections within Tables

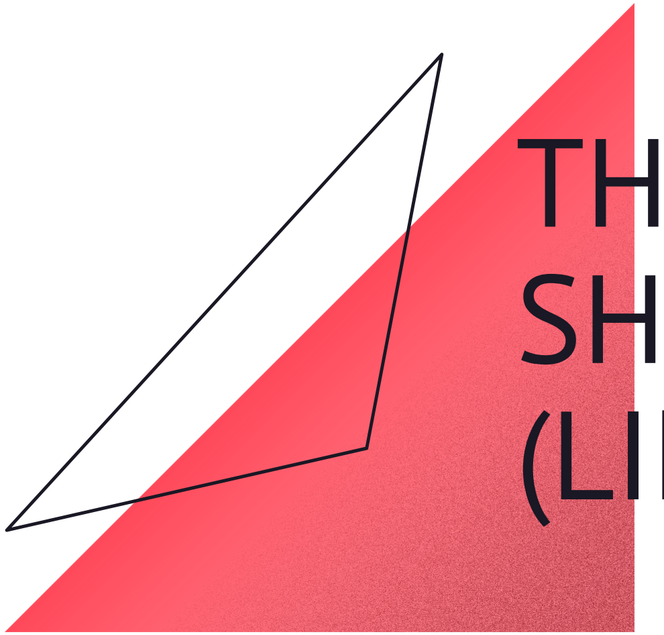
Many-to-many: Primary key



Connections within Tables

Many-to-many: Junction Table





THE TALK IS CHEAP, SHOW ME THE CODE. (LINUS TORVALDS)

Create Database
One-to-One
One-to-Many
Many-to-Many

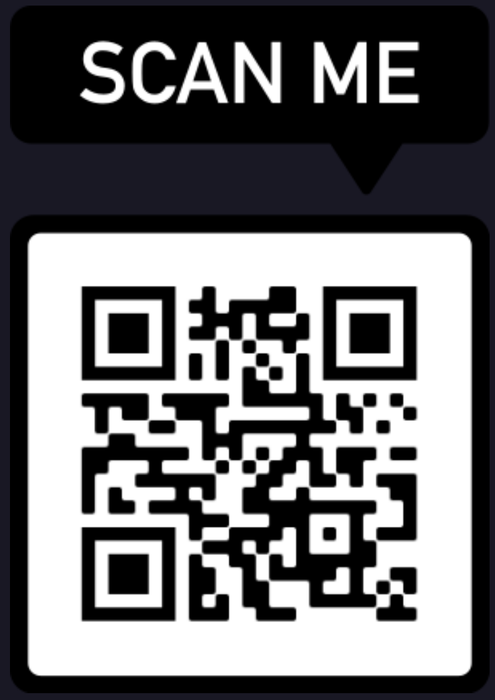
I've made mistakes
but I'm not going to make
the same mistakes.
I'll make new mistakes

JOSE MOURINHO

QUESTIONS?

LET'S STAY CONNECTED

@vre2h at FB, Linkedin, Telegram

BLOG

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