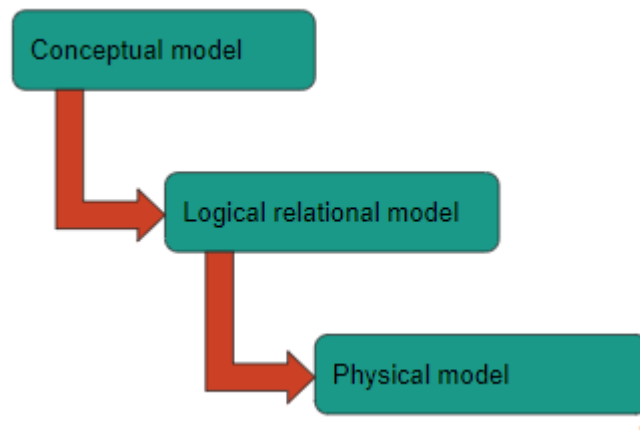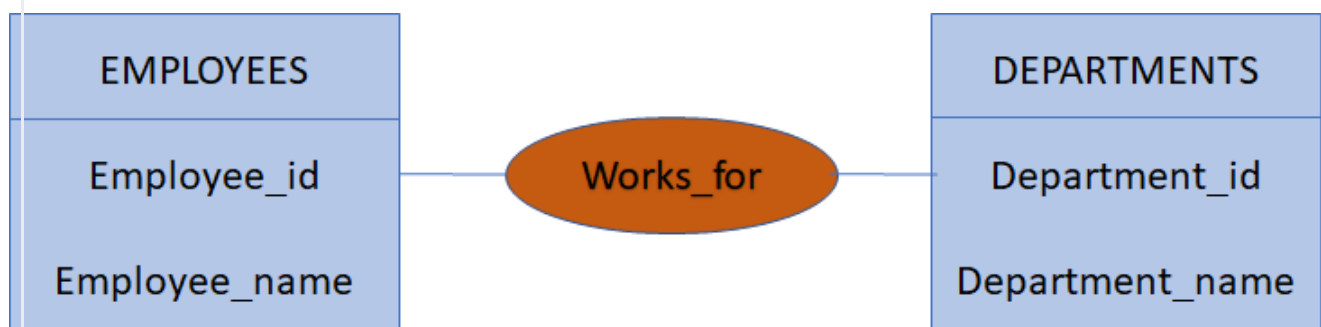# Database design

To design a database, it is important to follow 3 main steps:

Conceptual Model

- A conceptual model is a graphic representation that serves to describe the functioning of a Database.
- It represents the main objects contained in the database, their characteristics and the relationships established between these different objects.
- This representation is normalized according to a well-defined modeling.
- The conceptual model is independent from DBMS.

Logical Relational model

- A logical model or relational schema is a data representation model that adds more information to the conceptual model based on several rules.
- The logical model illustrates the data elements structure and set the relationships between these different elements.

- The logical model is independent from the DBMS

EMPLOYEES (**employee_id**, employee_name, **#department_id**)

DEPARTMENTS (**department_id**, deparmtent_name)

Physical model

- The physical data model or physical schema is an implementation of the logical data model in a specific RDBMS.

- It represents the structure and content of the database (tables, columns, data types, constraints, etc.).

- The physical model is dependent from the DBMS