

#### Codd's Rules

https://en.wikipedia.org/wiki/Codd%27s\_12\_rules



### Database Design Phases

Requirement Database Specification Design

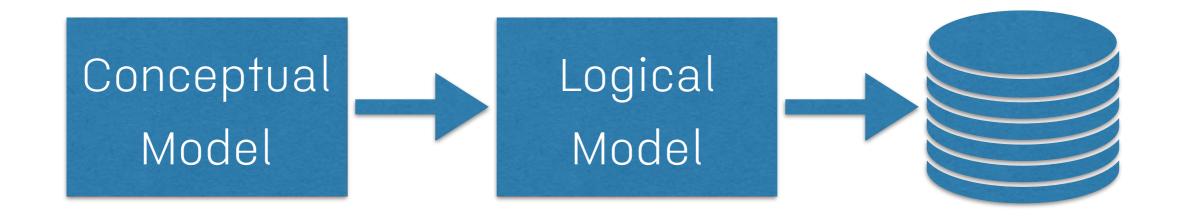


### Requirement

Understand the operational and business requirements of an organization



### Database Design Process





#### Conceptual Model

Express the **highest level relationships** between the different entities



#### Conceptual Model

The most simple representation of database you are going to develop



# Why Conceptual?

Free from technical details such as field size, type and constraints



# Why Conceptual?

Describe of the database requirements



# Why Conceptual?

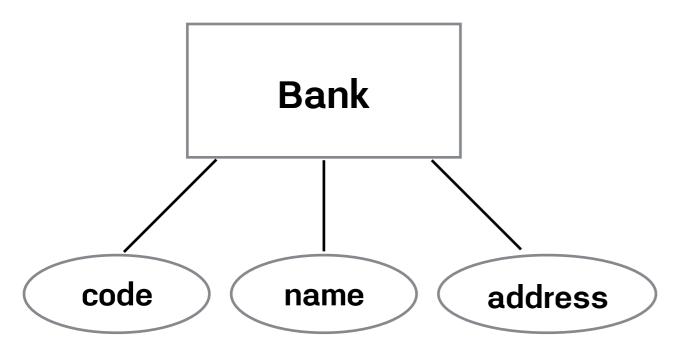
Easy to communicate idea between end user and development team

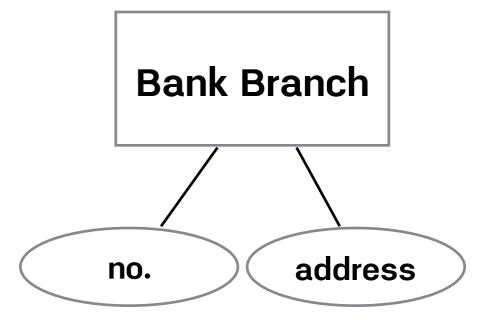


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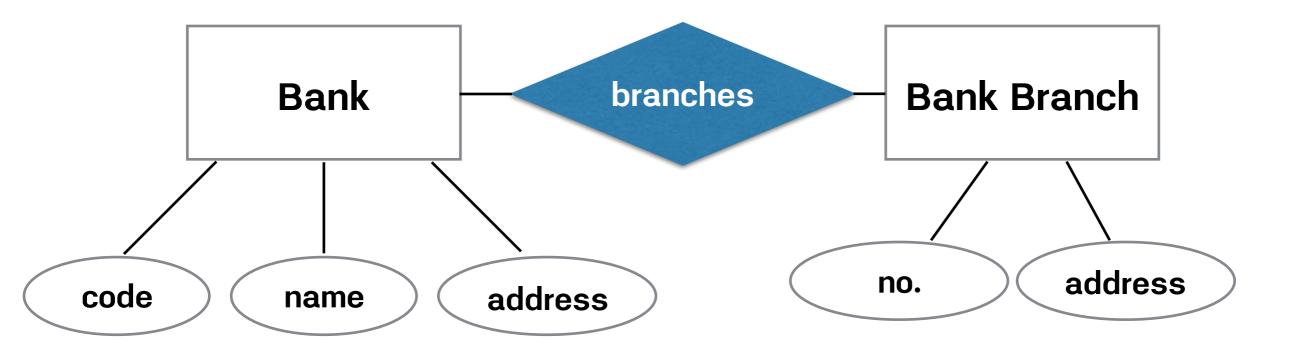
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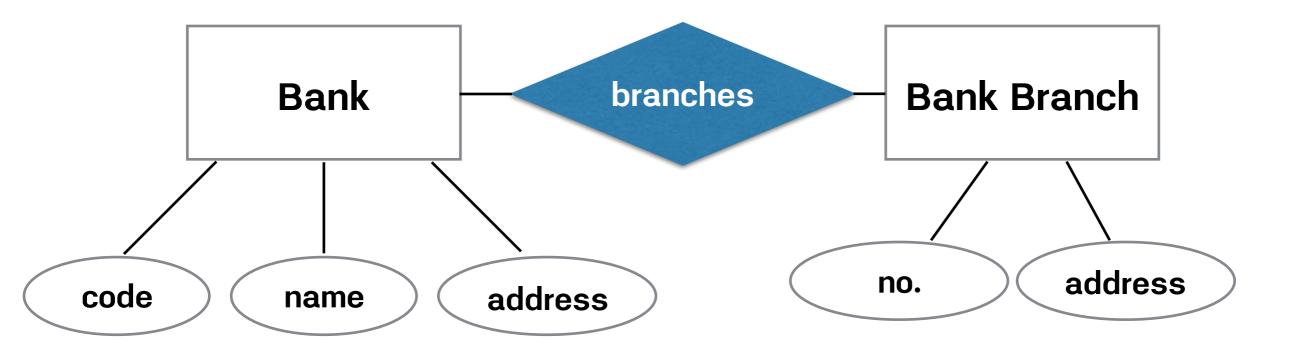


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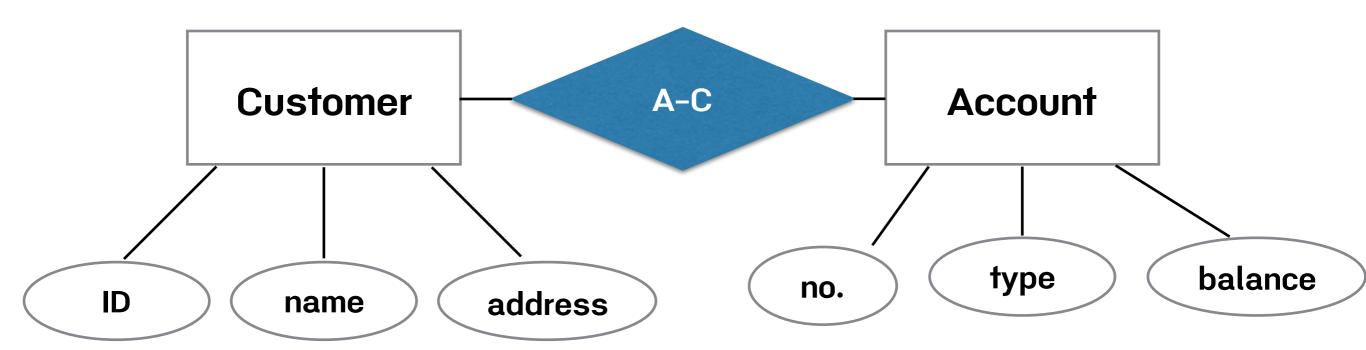


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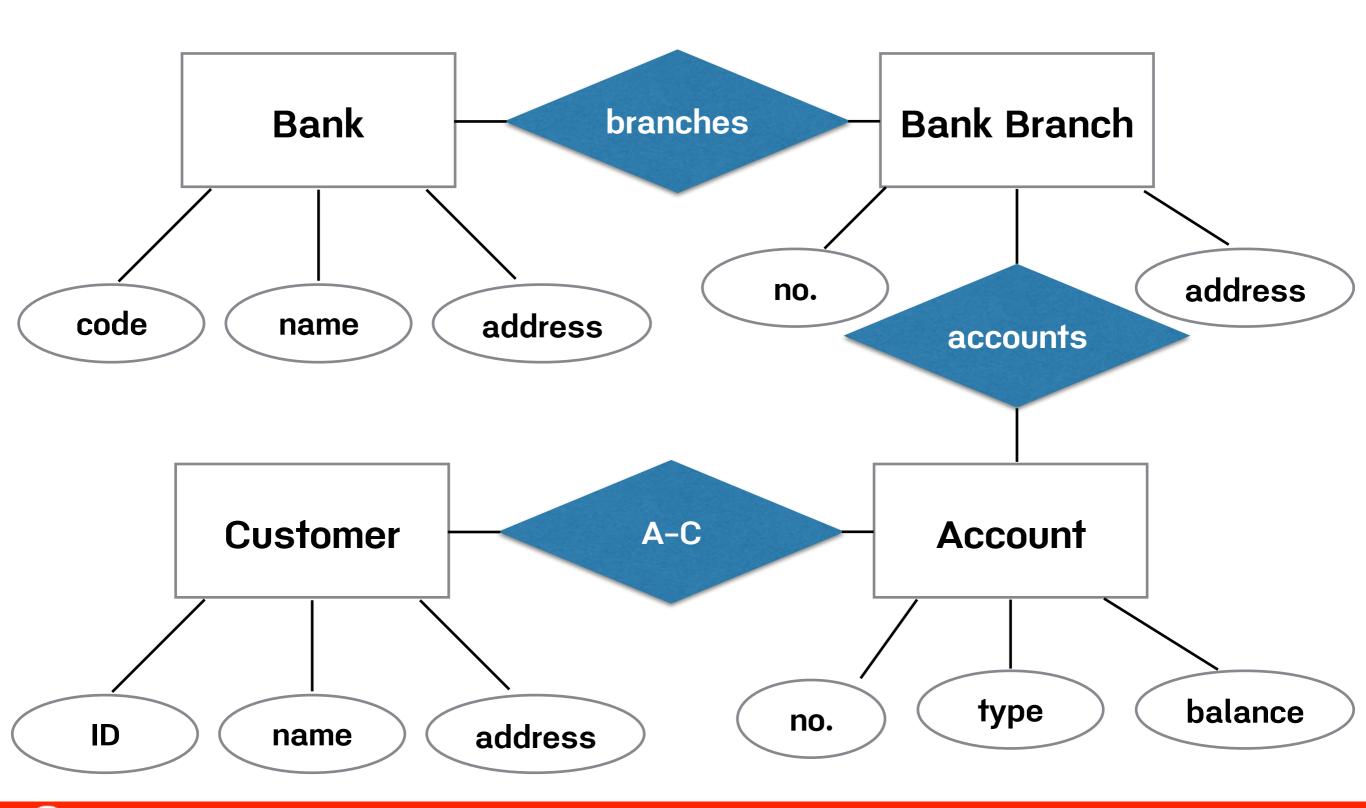




ลูกค้าสามารถมีได้หลายบัญชี ?









# Logical Model

Express fully attributed data model is independent of DBMS



# Physical Model

Fully attributed data model specific to a version of a data persistence technology



# Collection of information organized in tables



#### Relationships?

