

Database Modeling

Introduction

- 1) Requirement analysis
- 2) Create ER-diagram
- 3) Organizing data into tables
- 4) Normalizing

①

Gather information

List the types of data

②

Visual

Entities

Primary keys

Cardinality

Organizing data into tables

③

ER-diagram => tables

Assign datatypes

④

One big => many small

Relations

Customer	

Order	

Relations



Relations

Order	

Product	

Relations



Relations

Shop	

Icecream	

Relations



Relations

Country	

UN Representative	

Relations



Relations

Candidate	

Person	

Car	

ExtraInfo	

PoliticalParty	

Color	

ParkingSpot	

Product	

Order	

Student	

Book	

PassportDetails	

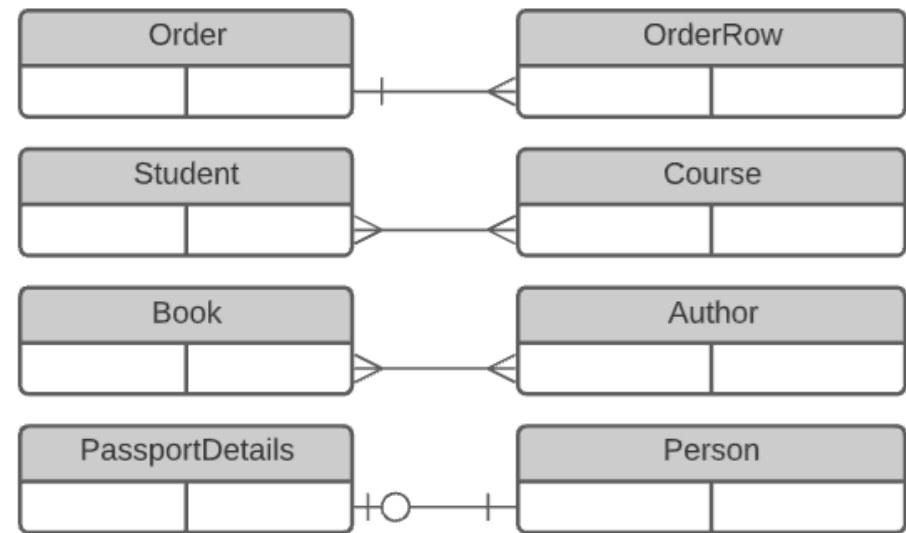
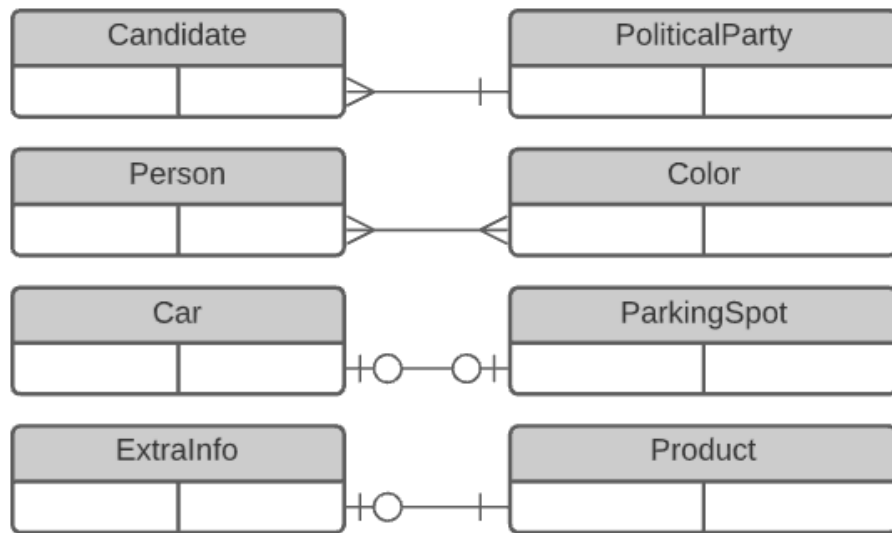
OrderRow	

Course	

Author	

Person	

Relations



Normalizing

First normal form

Second normal form

Third normal form



Normalizing

First normal form

Name	FavoriteColors
Bart	Red, Green, Blue
Lisa	Green, Purple

Name	Color1	Color2	Color3
Bart	Red	Green	Blue
Lisa	Green	Purple	

Second normal form

 OrderNumber	 ProductId	ProductName
1	3000	Monitor 26"
2	4000	Freezer
3	3000	Monitor 26"

Third normal form

ProductId	Name	Price	VAT	TotalPrice
1	Bowl	200	50	250
2	Spoon	32	8	40