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TDWI Education

In-Depth Business Intelligence and
Data Warehousing Education

Intermediate and Advanced Techniques for Effective Data Modeling

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Intermediate and Advanced Techniques for Effective Data Modeling

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|----------|--------------------------------|
| Module 1 | Normalization Hike |
| Module 2 | Abstraction Safety Guide |
| Module 3 | Denormalization Survival Guide |
| Module 4 | Data Model Scorecard™ |

Normalization in a nutshell

Make sure every data element is single-valued and depends completely and only on their primary key.

Dependency = a primary key value returns at most one value



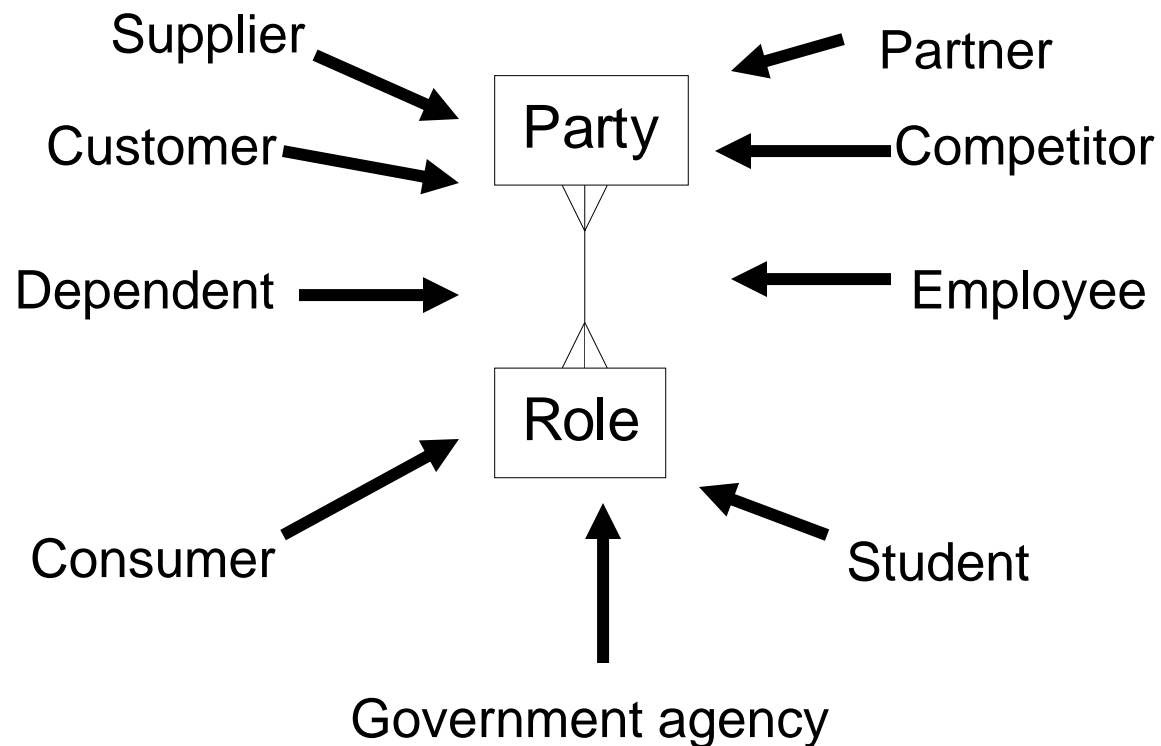
Customer Id '123' returns
Customer Last Name
'Smith'



Department Code 'A' returns
both 'Accounting' and 'Sales'

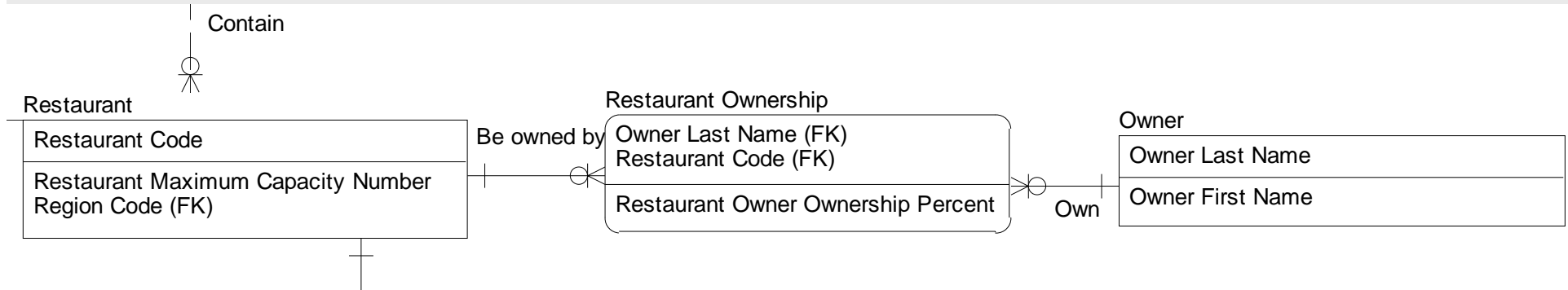
What is abstraction?

A logical data modeling process where we redefine data elements, relationships, and/or entities into more generic structures



Denormalization Survival Guide

Example for Relational Data Mart



What is the usage ratio across the entities being considered for denormalization?

- Strong correlation with each other (30)
- Weak or no correlation with each other (-30)

What is the participation ratio?

- 1-1 to 1-5 (20)
- 1-100 and up (-20)

What is the length of each row that would be repeated?

- Less than 30 characters (20)
- More than 30 characters (-20)

Data Model Scorecard™ Categories

1. How well does the model capture the requirements?
2. How complete is the model?
3. How structurally sound is the model?
4. How well does the model leverage generic structures?
5. How well does the model follow naming standards?
6. How well has the model been arranged for readability?
7. How good are the definitions?
8. Does the model's level of detail meet the definition for this level of detail?
9. How consistent is the model with the enterprise?
10. How well does the meta data match the data?

