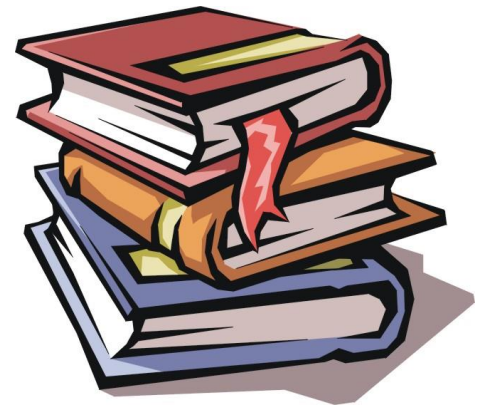


# Books Recommendations



# Outline



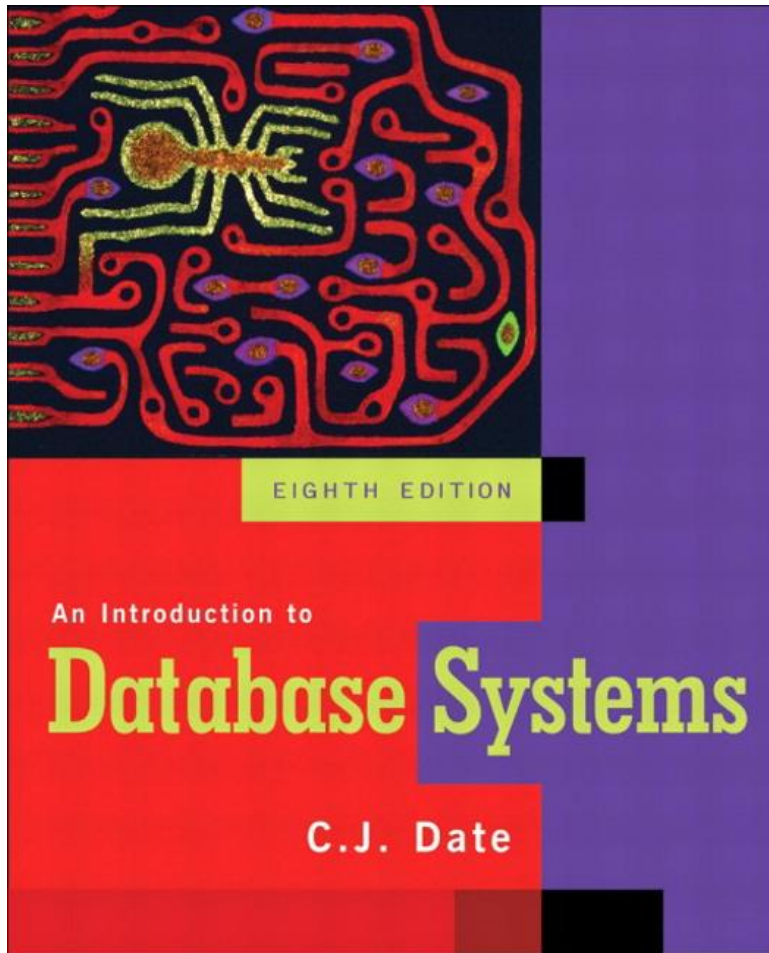
- Christopher .J Date : An introduction to Database Systems (1975 – 2003 – 8<sup>th</sup> ed)
- Jeffrey .D Ullman : Database Systems The complete book
- Sam. LightStones : Physical Database Design (2010)
- Martin Fowler : UML Distilled (1997)
- Bill Karwin : SQL Antipatterns

# Outline



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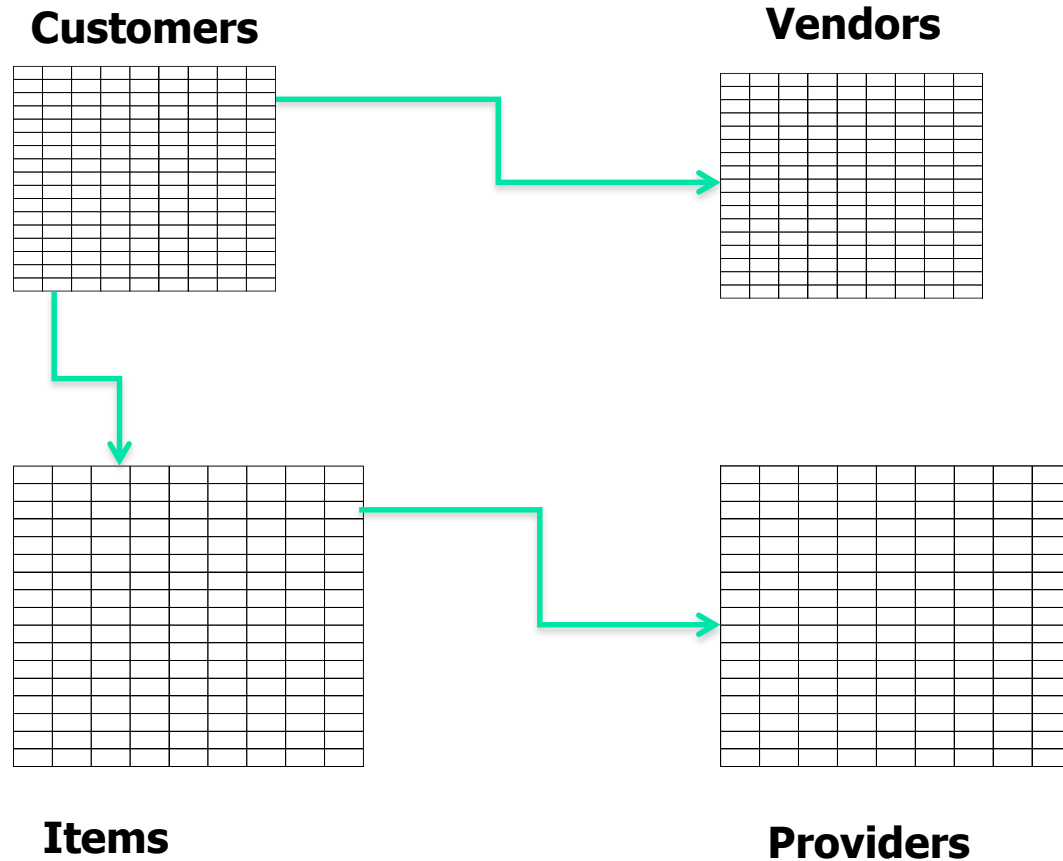
# C.J DATE (1975, 2004 8th edition)



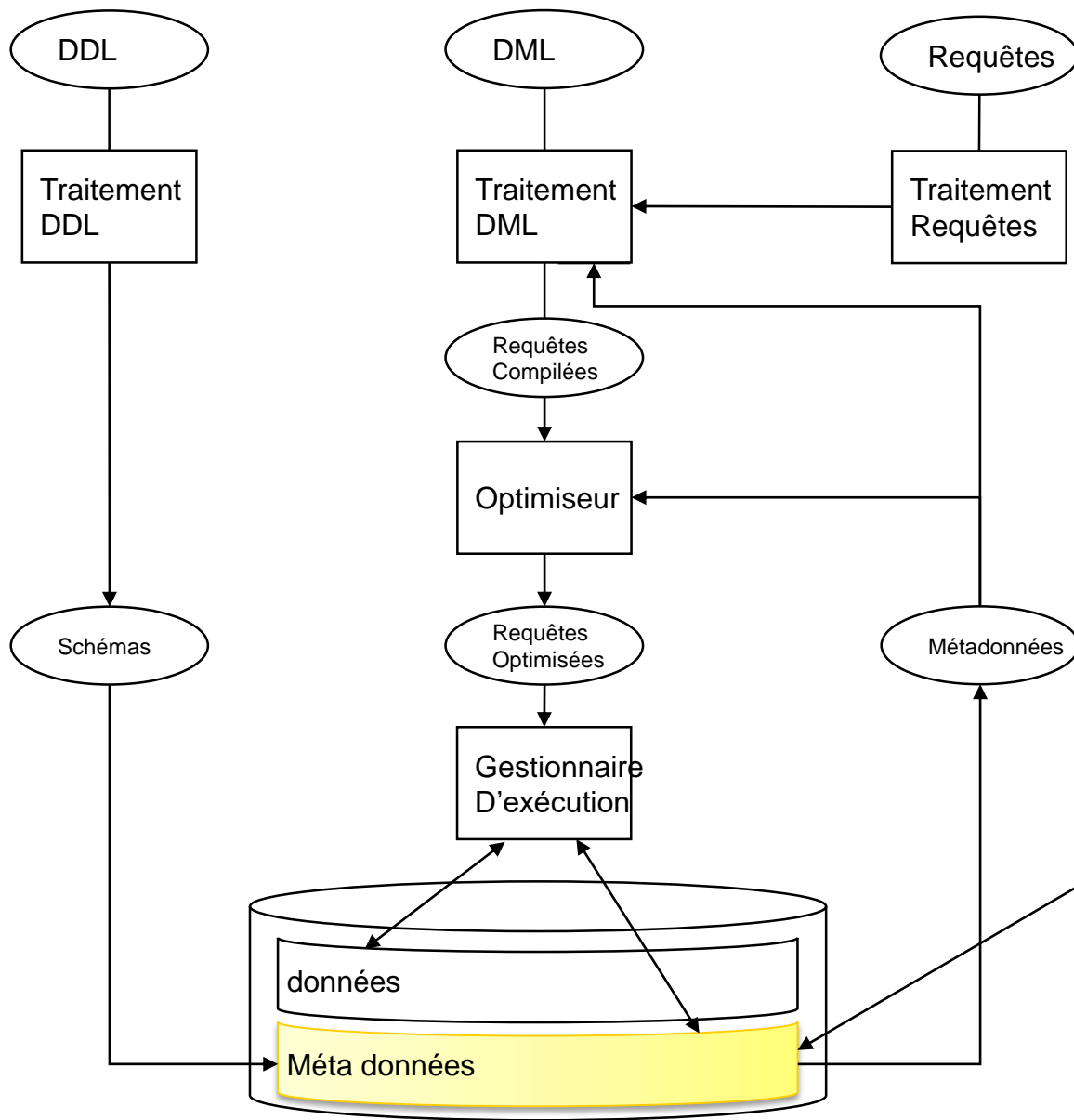
# Quiz



- Combien de relations voit-on sur ce diagramme ?  
3 ou 4 ?



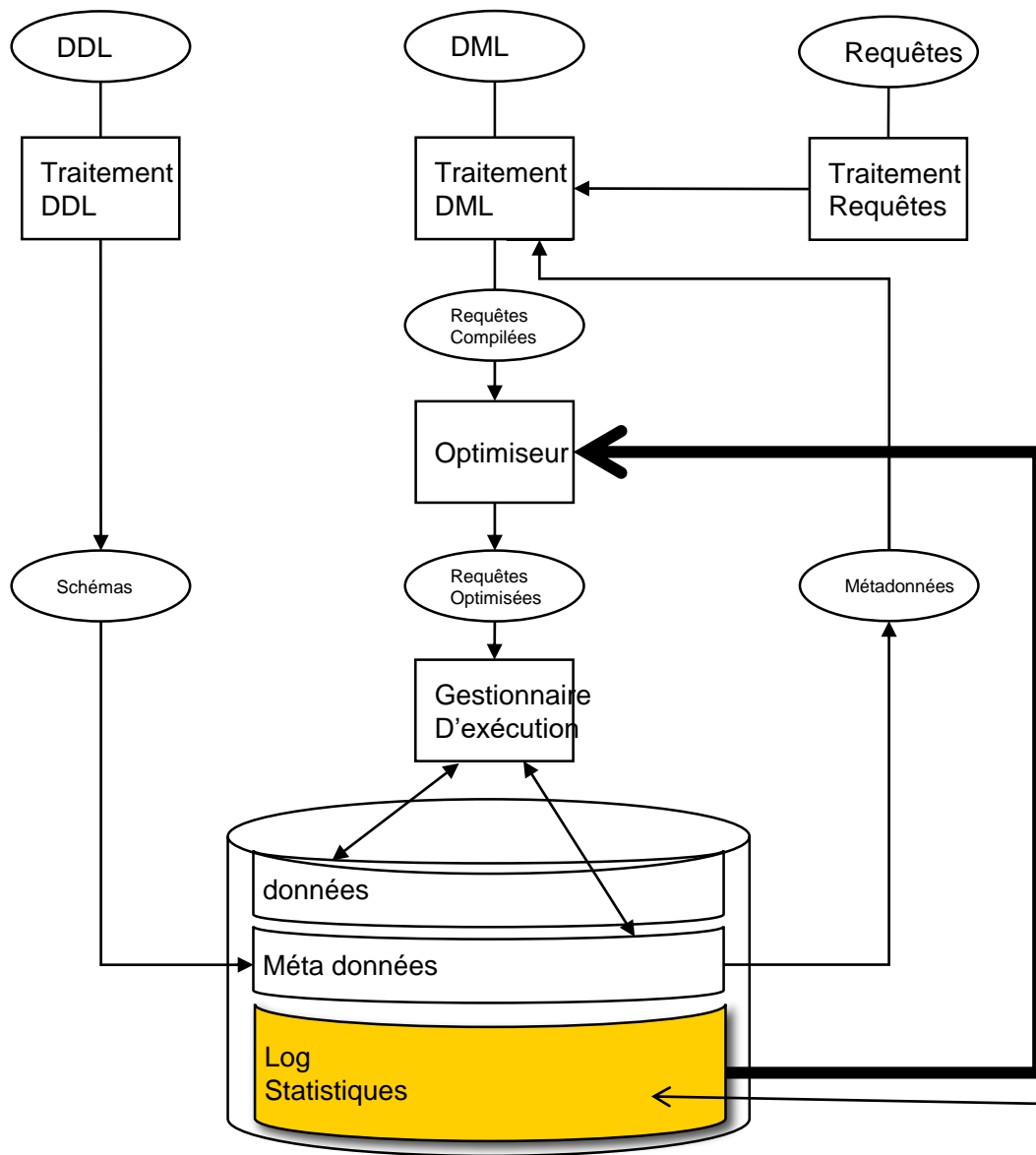




D'après C.J DATE

**Les méta données  
Sont dans des tables**

*DDL : langage de définition des données; DML : langage de manipulation des données*



D'après C.J DATE

**Log & Statistiques**

*DDL : langage de définition des données; DML : langage de manipulation des données*



# Outline



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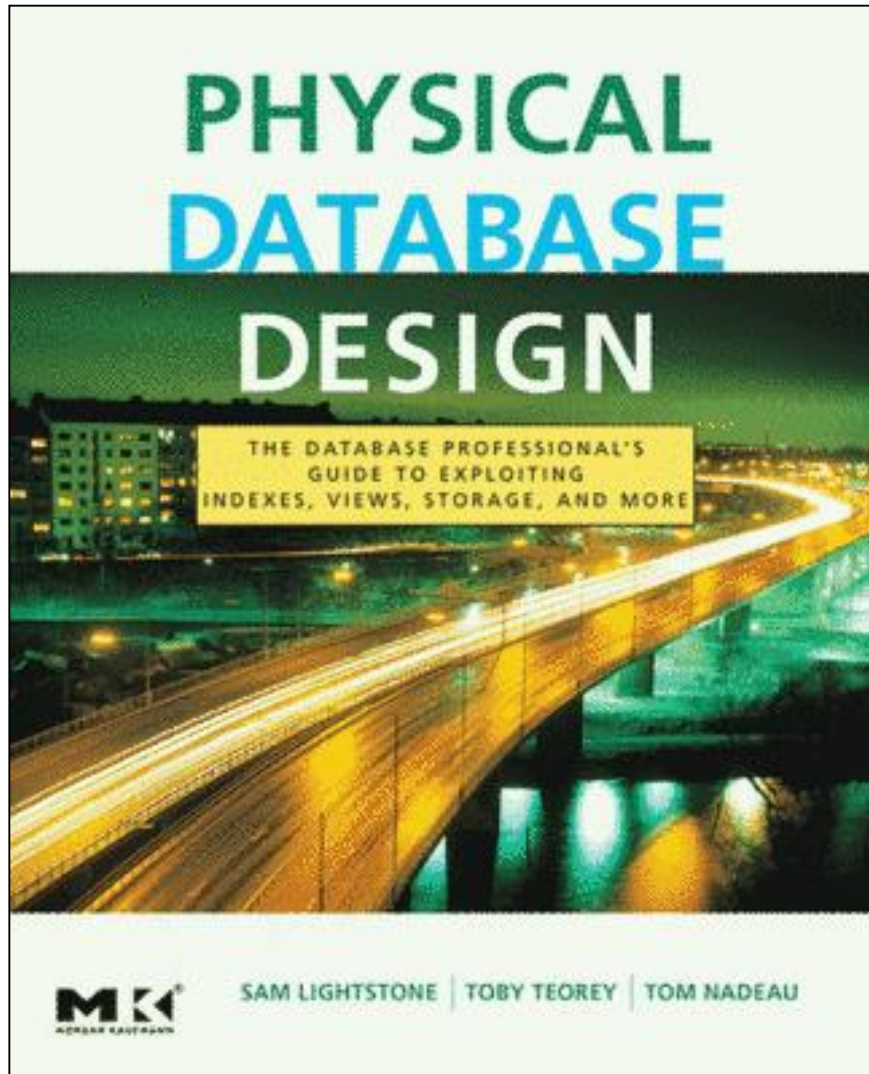


# Outline

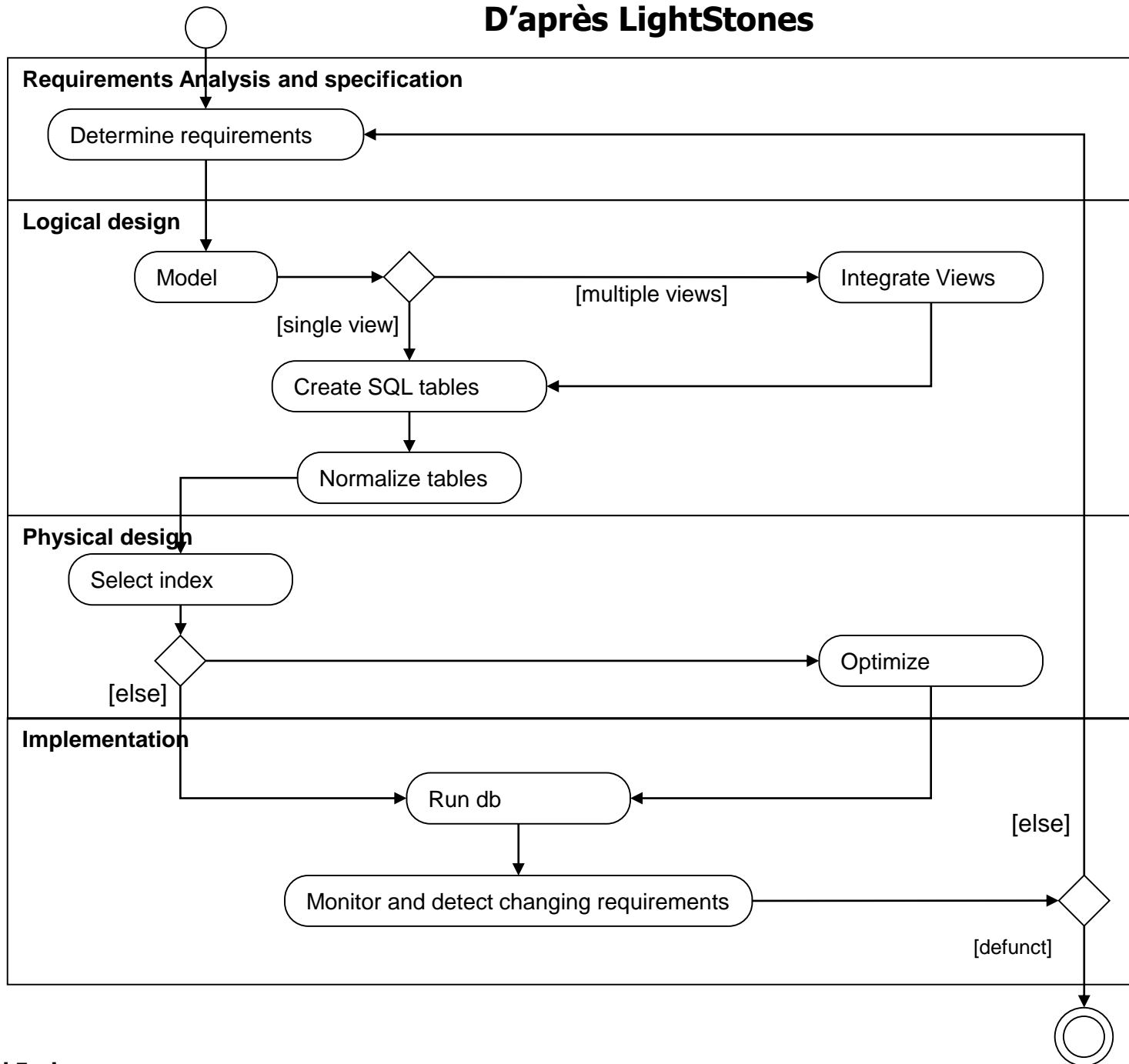


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# Sam LIGHTSTONE (2010)



# D'après LightStones



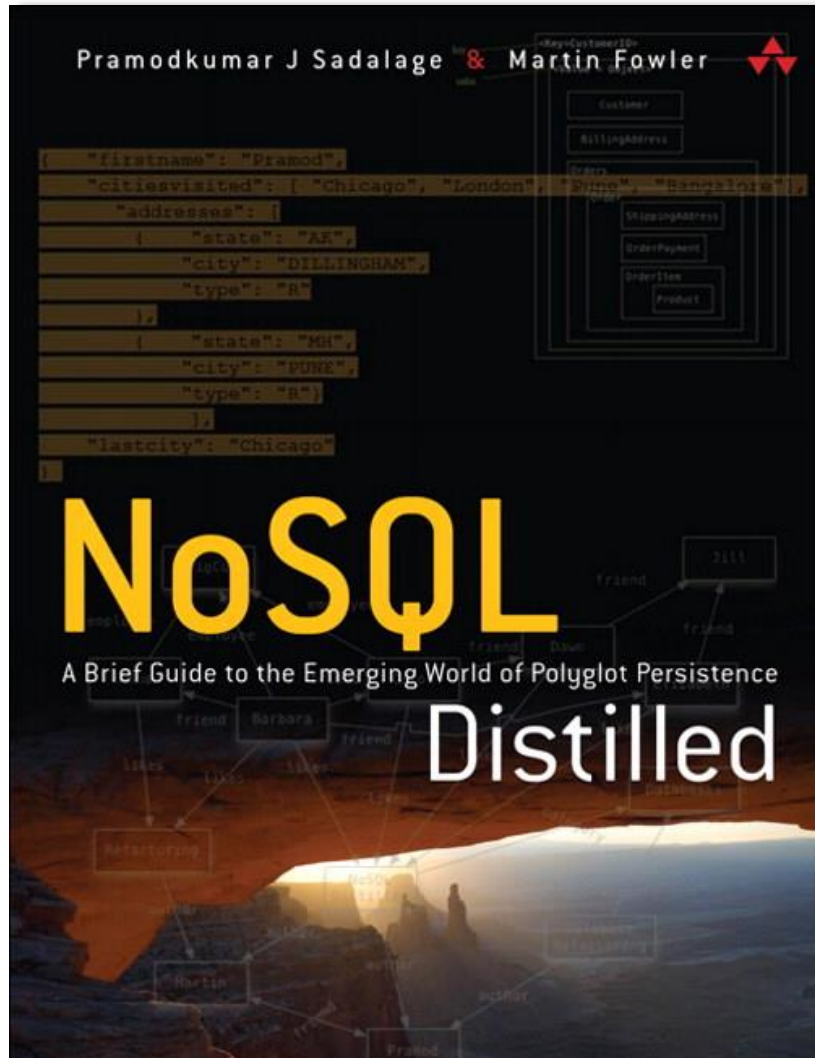


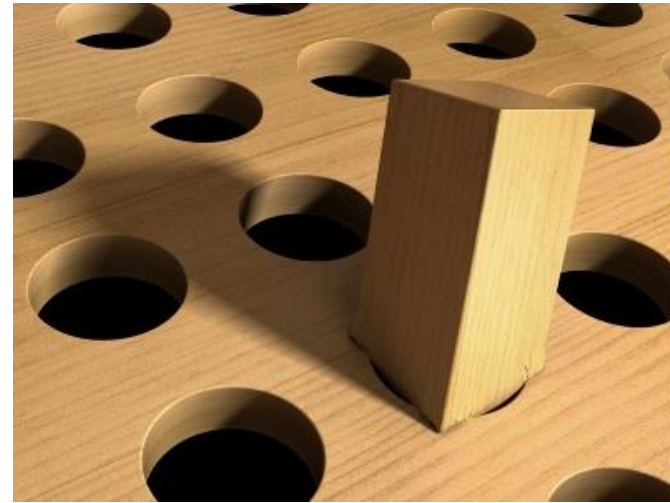
# Outline



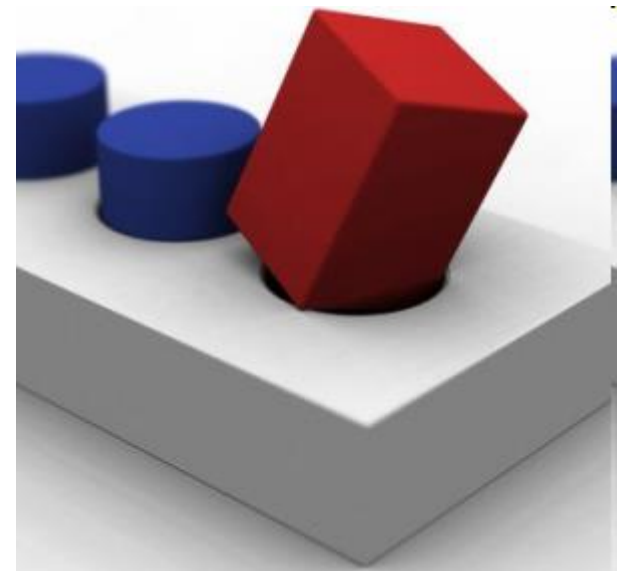
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# Martin Fowler





**Mapping, Round Pegs into Square Holes**

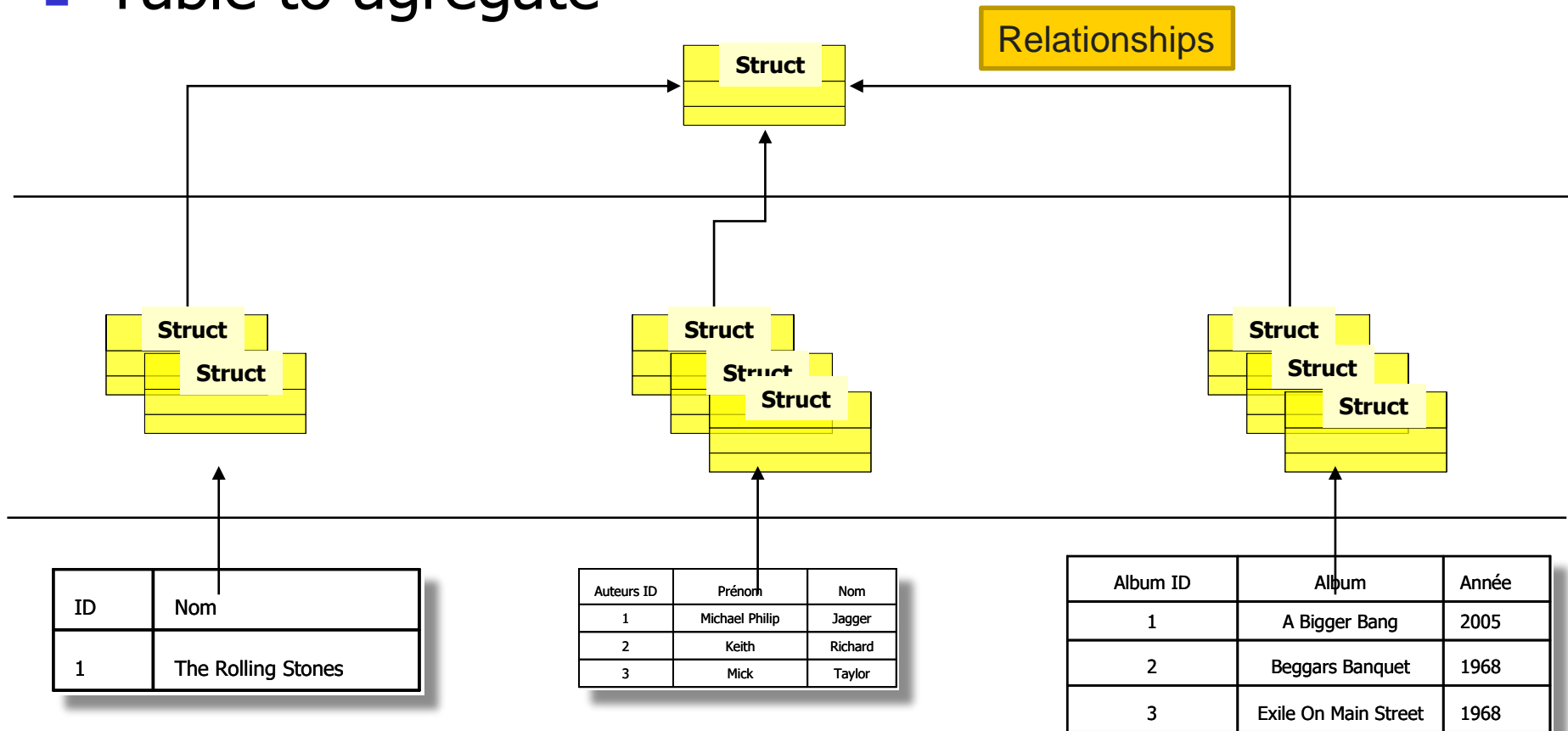




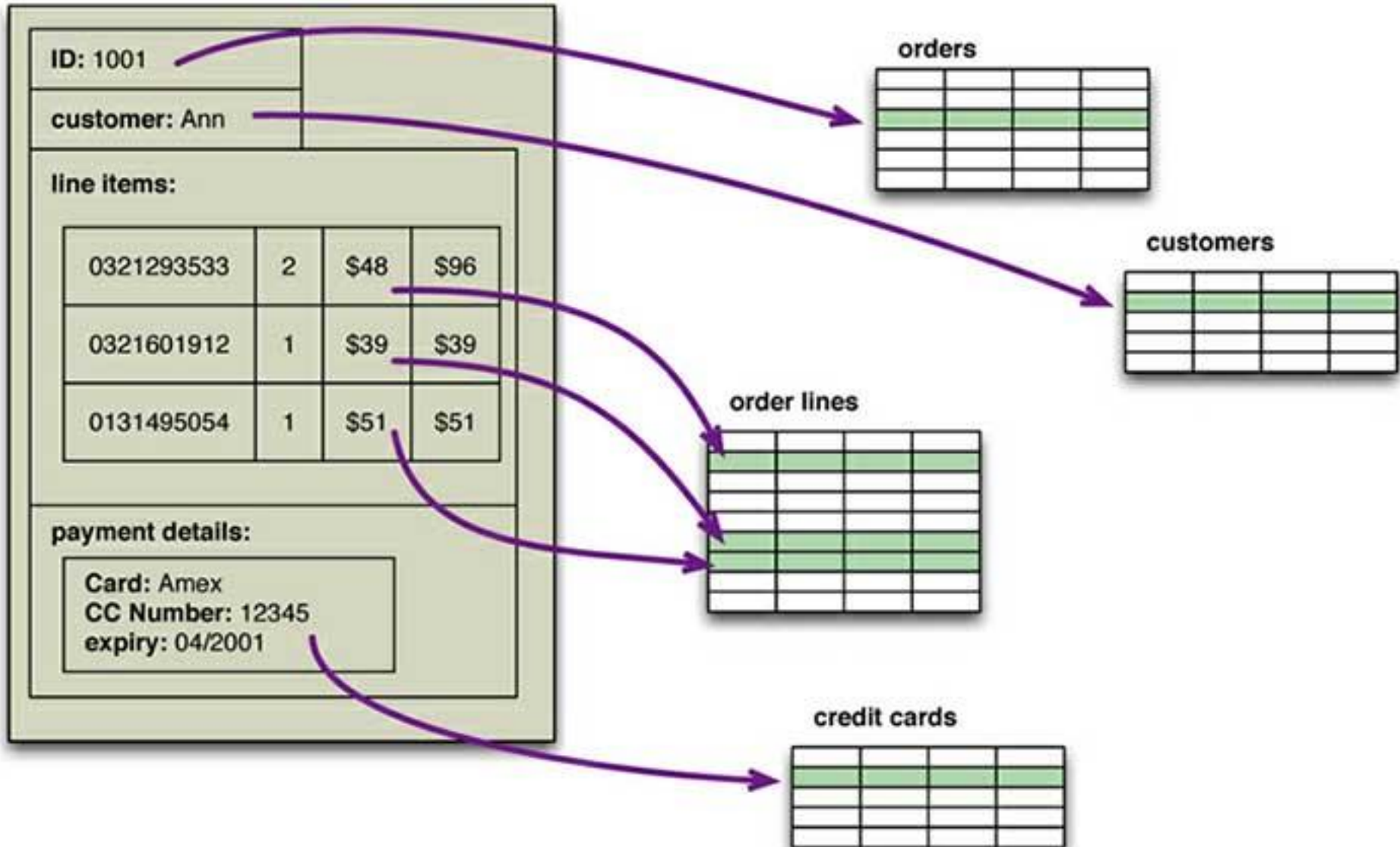
# Impedance Mismatch



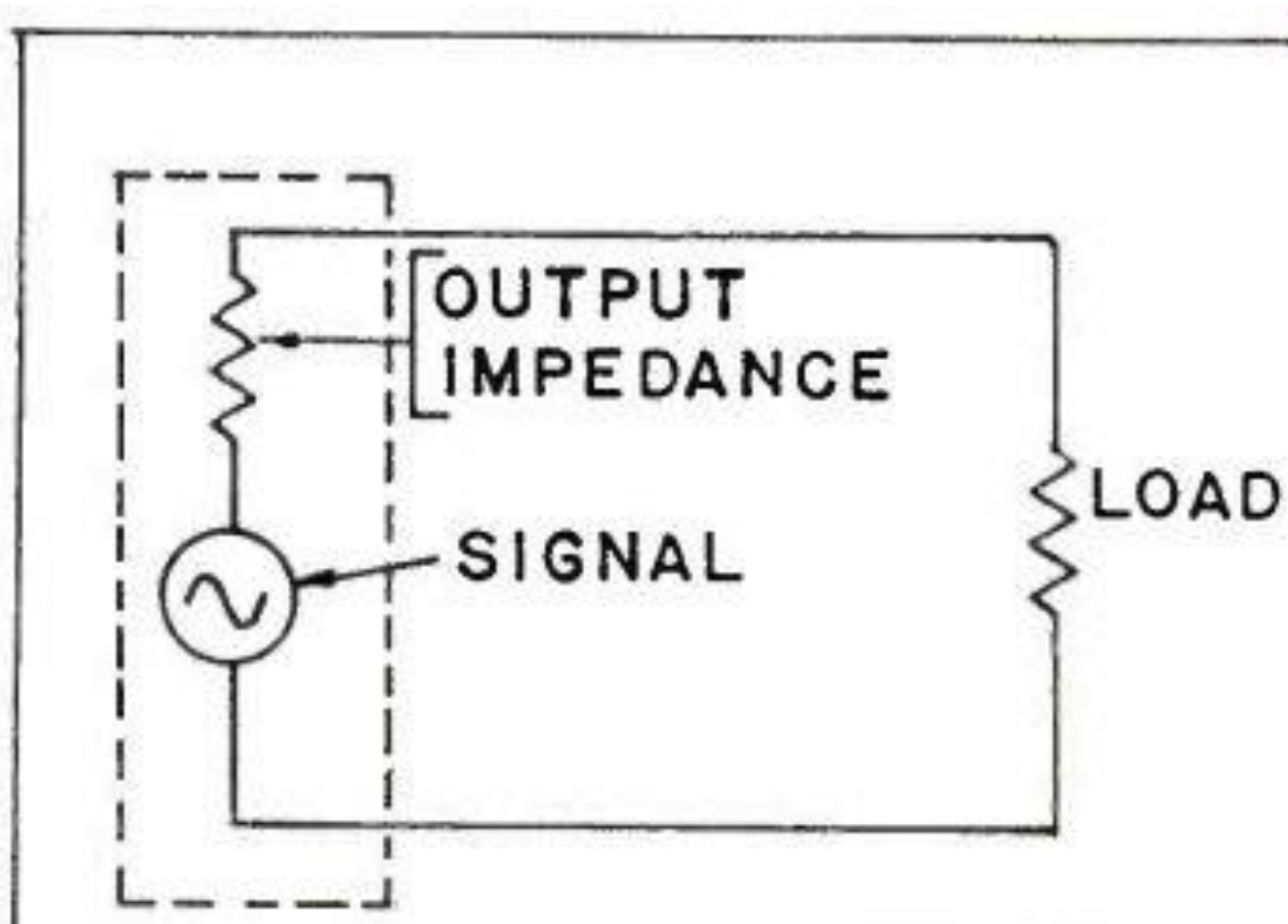
- Agregate to table
- Table to agregate



# Impedance Mismatch



# Impedance Mismatch



# Nosql : Not Only SQL



- key Value :
  - Dynamo,
  - Riak,
  - Voldemort : Linkedin
  - ...
- Document : key where Value=document :
- Column:
  - HBase : Yahoo
  - Cassandra : Facebook
  - Big Table : Google
  - ....

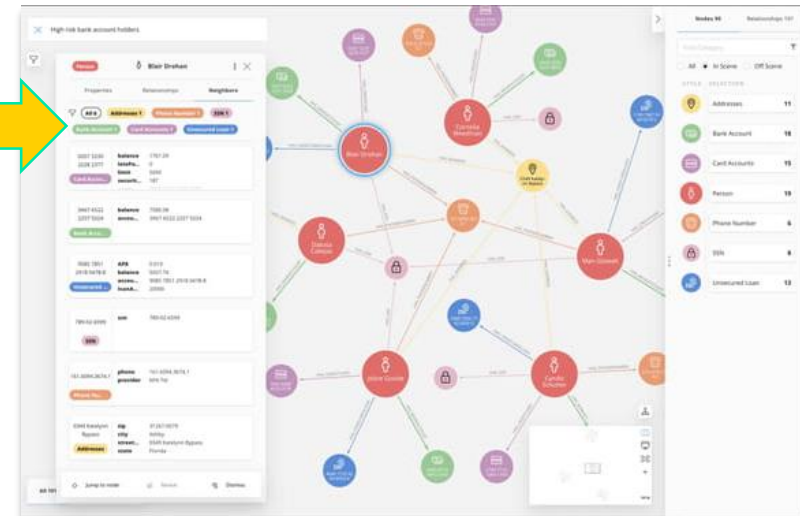
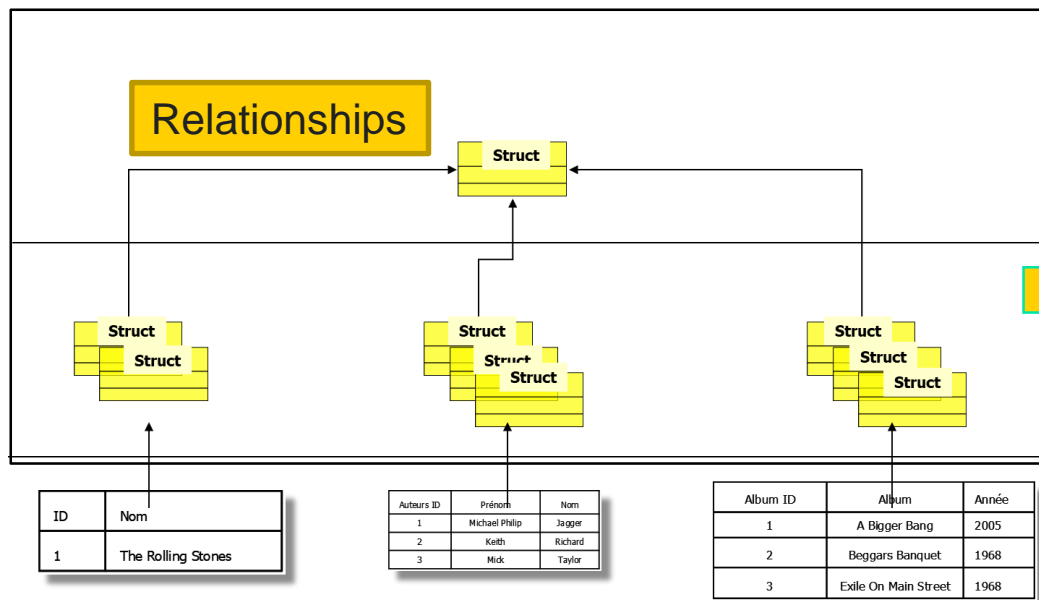


# Graph Impedance



- In Neo4j, everything is stored in the form of an edge, node, or attribute.
- Each node and edge can have any number of attributes.

Network Model : CODASYL

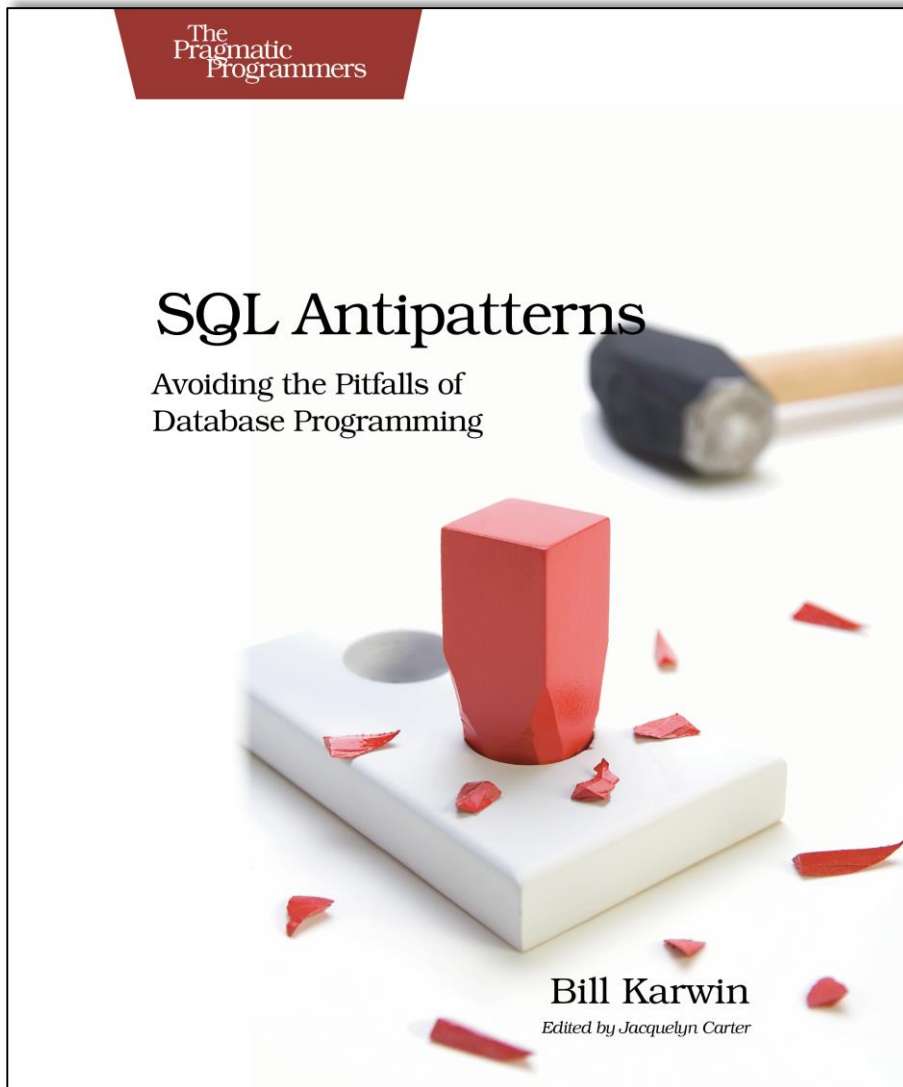


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# Bill Karwin (2010)



# SQL Antipatterns subparts



- Logical Database Design Antipatterns
- Physical Database Design Antipatterns
- Query Antipatterns
- Application Development Antipatterns



