

DB / DWH      DBMS → RelDB → E.F.Codd → Turing → o. Niklaus Wirth (Pascal)

SQL | DDL - Definition  
          DML - Manipulation

DCL - Control

RA - Recovery

Integrität - Semantische Korrektheit

Operationalität - Konkret beständig

Referential - FK agrees w/ PK

Entfernen

Relchöfen → Operatoren (was will ich wissen?)

Funktionen → Operatoren (will ich verändern?)

Attribut → Bez. | Domäne (Datentyp)

Antfragen → Rel → another Rel

→ ~WHERE

- Selektion, 1. Operand = Rel = schema; Selektionsbedingung; AND-UND

→ Operator & Operand

V-OR

R = Tabelle (R)

t in R OR S

R' = RUS, R US = SUR

R' = RLS - t in R NOT IN

R' = Q1S - NOT

A1:D2 A2:D1 ... An:D2

Q11 Q12 ... Q1n

Q21 Q22 ... Q2n

... ...

R

Attributname

R(A<sub>1</sub>, A<sub>2</sub>, ..., A<sub>n</sub>)

Domäne

Schema

Kopf, unveränd.

Reisezeit

R

Attributname

Was will ich wissen?

Attribut

Bes. | Domäne (Datentyp)

Attribut

Was will ich verändern?

Attribut

Was will ich entfernen?

Attribut

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Attribut

DWH → Integration unterschiedlicher Daten in einem System (Golden Source) (Decision Support System)

OLAP → Online Analytical Processing → Modellfokus (n. Innen)

→ Subject-oriented

→ integrated

→ time variant

→ non-volatile

Data → Staging → Data → Auswertung (Art)

→ i.e. ERP

OLAP → big Queries w/ joins

→ Updates: redundant

→ de-normalisierung

→ i.e. Zeitdaten

3NF

↪ wenn jede nicht-Schlüssel-Spalte von allen anderen Spalten von allen anderen nicht-Schlüssel-Spalten unabhängig ist

↪ normalisiere dims

↪ sollte vermieden werden

↪ use it Zeitplatz wichtig als simple star

↪ ≠ Granularität

↪ Dupliziert

↪ fewege flat

↪ ++ Dimension

FACT

... ID

... Sales

... Profit

... Name

... Desc

Customer dim

... ID

... Dim

... Roll-up

... Roll

... Dim's

↪ konkrete Klassifizierung führen

... Star schema

... Fact tables

... Fact

ETL → Extract, Transfer, Load (Time Dimension)

→ PK auf factten attributen

+ Quick speed

# 3NF Denom...

↪ Dupliz. nicht

↪ Star schema

↪ Fact auf dims

↪ what's was wir messen aggregieren

↪ fewege flat

↪ reinigt flat

↪ ++ Dimension

↪ Drill down

↪ Drill across

Globex

↪ what's was wir messen aggregieren

↪ fewege flat

↪ reinigt flat

↪ ++ Dimension

↪ Drill down

↪ Drill across

↪ what's was wir messen aggregieren

↪ fewege flat

↪ reinigt flat

↪ ++ Dimension

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↪ Drill down

↪ Drill across

↪ what's was wir messen aggregieren

↪ fewege flat

→ Decision Support System

→ Dataflow System

→ n. Innen

→ integrated

→ time variant

→ non-volatile

→ Subject-oriented

→ integrated

→ time variant

→ non-volatile

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