Overview

- reversible process of changing database schema for better quality and simplicity
- step by step

  1st Normal Form: no multi-valued attributes

  2nd Normal Form: all non-key attributes fully functional dependent on primary key

  3rd Normal Form: no dependencies among non-key attributes

- 4,5,6th Normal Form also exists
- Denormalization
  - may improve performance for read-only DBs
    * anomalies avoided due to read-only e.g.

1st Normal Form

- no multi-value attributes ==> all attributes are atomic
- split relations with 1:N or M:N relationships

2nd Normal Form

- must be in 1st Normal Form
- every non-key attribute must be fully dependent on every key

3rd Normal Form

- every non-key attribute is non-transitively dependent on every key
  - no dependencies among non-key attributes

[[Database Design]]