Exercise 1

Task 1.1

Partition of the area of election

- **Federal State**: The Federal Republic of Germany is divided into its federal states.
  - o Name
- **Constituency**: Every federal state is divided into constituencies.
  - o Number, Name
- **Wahlbezirk**: Every constituency is again divided in to wards for voting by casting a ballot or ballot letter. The subdivision is based on number of those entitled to vote.
  - o Number
- **Briefwahlbezirk**: Voting by letter is done in a Briefwahlbezirk, which is part of a constituency.
  - o Number

Citizens

- **Citizens**: Every man or woman is entitled to vote unless this right is voided by court order.
  - o Title, first name, last name, date of birth, sex, address etc.
- **Register**: Every constituency has register of those citizens registered there and thus the right to vote there.

Voting

- **Vote**: When casting a vote, the citizen chooses a candidate for his constituency (Erststimme) and a party for the state (Zweitstimme). Every citizen can vote exactly one time per election.
  - o **Ballot**: Voting in person is done at a Wahllokal by ballot.
  - o **Ballot letter**: When voting by letter or in a different Wahlbezirk this is done by ballot letter.

Candidates

- **Parties**
  - o Name, Shorthand
- **Candidates**: Candidates can be members of one or more parties.
  - o Name, age, party affiliation
- **Direct candidates**: Per party exactly one candidate can be nominated per constituency. This candidate may not be member in any other party. Candidates without party affiliations are possible.
- **State candidates**: Every party running in a state presents a list of candidates with a defined order.

Task 1.2

Benefits

- **Multi-user access:** Ability to use the system by a various number of users at the same time.
- **Back up & Recovery**: Ability to restart after a failure without losing data.
- **Data-integrity:** Ability to ensure defined constraints.
- **Performance**: Ability to perform real-time data analysis in a rapid manner.
- **Security**: Ability to use different rule sets for accessing data for different user groups.

Drawbacks

- none

Task 1.3