DBMS Homework 2

(end of lecture 4)
20210316

Homework 2

Build a database based on the ER model you built in Homework 1. We use 'MySQL Command line client - Unicode' in this homework. For your homework, please do the following

Basic

- Create a database for the ER model you built, give a proper name to the database.
- In this database, create a 'self' table to describe yourself. The table should include your student ID, name, department, year, and other information you think are necessary.
  - Insert your self-information into the 'self' table.
- For each entity types that you designed in homework 1, create a table with the corresponding name, attributes, domains, and key constraints.

Schema size

  - You will have at least 5 tables or more tables.
  - You will have at least 3 attributes for each table.

- In addition, your tables must contain the following in the corresponding tables
  - Regarding entity types

Primary Key

    - For each strong entity type, there must be the primary key

5% bonus

    - For each weak entity type, each partial key should be "turned" into a multi-attribute primary key (by adding additional column).
  - Regarding attributes

Attrib

    - Define attribute and domain properly
    - For composite-valued attributes, use string to as its domain for now.
    - For each multi-valued attribute,
      - Treat as single value for now

Attrib constraints

    - Use NOT NULL and Default constraints in at least once for each table
    - Define at least three attribute constraints in all tables using CHECK

Homework 2-2

- Regarding relationship
  - For each recursive relationship, assign the foreign key properly for its corresponding table.
  - Each 1-1 or 1-n relationship in the ER diagram should be implemented as a foreign key constraint in a table
  - For each m-n relationship in the ER diagram, you need to create an additional table
- Insert at least 3 rows for each table.
- Create two views in your databases
  - Each view should be based on two tables

Recursive

Foreign key

m-n

Table size

Views

Additional bonus:

5% bonus

Look up and use enum type in at least three attribute domains

Homework 2-3

Hint:

- What you create in this homework may continue to be used by yourself in the future homeworks.

TA Grading Guidelines

- 15% Basic
- 10% Schema size
- 10% Table size
- 10% Primary Key
- 10% Foreign key
- 10% Recursive
- 10% m-n
- 10% Attrib
- 10% Attrib constraints
- 10% Views
- 5%
- Total 100%
- 5% 5% bonus:weak
- 5% 5% bonus: enum
- Total 110%