EE5178
111-2 Homework 2

(end of lecture 4)
20230322

Homework 2

Build a database based on the ER model you built in Homework 1. Please do the following:

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

Basic

Schema size

- In addition, your tables must contain the following in the corresponding tables ------
- Regarding entity types
  - For each strong entity type, there must be the primary key
  - For each weak entity type, each partial key should be "turned" into a multi-attribute primary key (by adding additional column).
- Regarding attributes
  - Define attribute and domain properly
  - For composite-valued attributes in ER, use string to as its domain for now.
  - For each multi-valued attribute in ER, find out a way to handle it that is consistent with RDB model
  - Use NOT NULL and DEFAULT constraints in at least once for each table
  - Define at least three attribute constraints in all tables using CHECK

Primary Key

Weak entity

Attrib

Attrib constraints

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- 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
- Enum
  - Look up and use enum type in at least three attribute domains
- Insert at least 3 rows for each table.
- Create two views in your databases
  - Each view should be based on two tables

Additional bonus:

- Union and specialization
  - Implement the union and overlapping specialization and disjoint specialization you design in you ER model

Note:

- What you create in this homework may continue to be used by yourself in the future homework. So make sure you do a good job.

TA Grading Guidelines

- 10% Basic
- 10% Schema size Table size
- 10% Primary Key
- 10% Foreign key
- 10% Recursive
- 10% m-n
- 10% Attrib
- 10% Attrib constraints
- 5% Views
- 5% Weak entity
- 5% Enum
- Subtotal 95%

- Advanced:
  - 4% Union
  - 3% Overlapping specialization
  - 3% Disjoint specialization
- Total 105%

Homework 2 submission

- **Detailed Rules : HackMD**
- Deadline: **4/05 Wed. 23:59 (GMT+8)**
- File name: hw2_{student_id}.zip, **ex. hw2_r09123001.zip**
- Submission: NTU COOL
- Delay
  - One day: original score * 0.8
  - More than two days: get no points
- **TA hour: Mon. 9:00 - 11:00 @ BL603**
- **TA mail: ntudbms2023.ta@gmail.com**
- **Q&A : NTU COOL 討論區 || TA mail**