School of Information and Physical Sciences
COMP1140: Database and Information Management
Assignment 2:
SDS Resource Management Database Design Project- Logical Database Design

Due: *11:59 pm, Sunday, Sept 18, 2022*
WORTH 15% of the final assessment mark

In this assignment, steps in the logical database design are conducted (as described below) as well as revising the requirement analysis and conceptual design of assignment 1, and a report is written.

This assignment has 3 parts as specified below.

1. Revise requirements and EER diagram in Assignment 1, based on:
    i. Either the EER Model submitted for your Assignment 1. Revise it based on feedback provided by your marker (If your EER model received less than 80% of full mark in assignment 1, you can NOT select this choice), or
    ii. Alternatively, complete the partial EER model given at the end of this file, to meet the systems requirements.
2. Map the EER model to the relational model. Document the relational schema in DBDL (Sample format is given below)

    ISBN (id, number, itemNo)
    Primary Key id
    Alternate Key number
    Foreign Key itemNo **references** Book(itemNo)
        ON UPDATE CASCADE, ON DELETE CASCADE
3. Normalize the schema to Boyce-Codd Normal Form (if any relation is not already in BCNF). The final normalised schema must be documented in DBDL.

The **final report** should include the following:

1. Reflection on your assignment 1 submission: briefly summarise your assignment 1 marker's comments and suggestions, describe major places you will improve in this submission on assignment 1 content.
2. Requirement Specification (including data requirements, transaction requirements and business rules). (This is the revised content of assignment 1.)
3. EER Diagram and Data Dictionary. (This is the revised content of assignment 1.)
4. The relational model mapped from EER (i.e., before normalisation).
5. Normalized Relational Schema in DBDL. In completing the normalisation process, you need first to tell what norm form that each relation is in, give your reasons for making the judgements; then show the normalisation steps for those relations that need to be normalised to BCNF (Note: It is expected that at least 2 cases of normalisation are shown to demonstrate your understanding of normalisation. In case of not being able to identify 2 lower normal forms, use of some assumption of functional dependency is acceptable, in which case you need to state that you are making the assumption to demonstrate the normalisation process to avoid the deduction of marks).

Method of submission: A softcopy submission is required:

- zip all required files into one zip file. The file name MUST be identified by 4 sections: A1, your first name, your surname, and your student number, e.g., A1SimonLee1234567.zip. It must be submitted to Canvas -> Assignments -> Assignment2

- In the report file, you **must** have on the front a **signed** copy of the cover sheet (Assessment Item Cover Sheet – Individual) which is available from: http://www.newcastle.edu.au/__data/assets/pdf_file/0008/75383/AssessmentItemCoverSheet.pdf

  Note: **please make sure to fill in your Tutorial Group (i.e., date/time), Tutor's Name,** as well as other items. Otherwise, your submission marking may be delayed.

Note: Ten percent of the possible maximum mark for the assessment item will be deducted for each day or part-day that the item is late. This applies equally to week and weekend days. Assessment items submitted more than five days after the due date will be awarded zero marks.

***Note**: The following partial EER will not be provided until 11:59pm, Sunday, Aug 28. (The file with the partial EER will be titled: COMP1140_S2_2022_Assignment2-with PartialEER.pdf)*

EER Diagram for SDS Resource Management Project

(Note: entities not complete, attributes not complete)