



Computer Science Department
CSC 3300 Database Management Systems
Project4 (11/18/2022; Fall 2022)
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What to submit as a solution to Project4?

Document in a pdf or doc format for ER and Relational Diagrams along with an SQL script.

Where to submit this file?

The dropbox in iLearn named Project4. The due date for this assignment is 11/30/2022 at 11:59pm. The end date for this assignment is 12/02/2022 at 11:59pm.

Rules

You may discuss on Teams what has to be done (clarification of the assignment's specification).

How this assignment will be graded?

Your submission has to meet the requirements to be given max number of points.

This project is based on an exercise 12.12 (page 383) from the 6th edition of "Database Systems; A Practical Approach to Design, Implementation, and Management" by T. Connolly and C. Begg.

Read the following case study, which describes the data requirements for a DVD rental company. The DVD rental company has several branches throughout the United States. The data held on each branch is the branch address made up of street, city, state, and zip code, and the telephone number. Each branch is given a branch number, which is unique throughout the company. Each branch is allocated staff, which includes a Manager. The Manager is responsible for the day-to-day running of a given branch. The data held on a member of staff is his or her name, position, and salary. Each member of staff is given a staff number, which is unique throughout the company. Each branch has a stock of DVDs. The data held on a DVD is the catalog number, DVD number, title, category, daily rental, cost, status, and the names of the main actors and the director. The catalog number uniquely identifies each DVD. However, in most cases, there are several copies of each DVD at each branch, and the individual copies are identified using the DVD number. A DVD is given a category such as Action, Adult, Children, Drama, Horror, or Sci-Fi. The status indicates whether a specific copy of a DVD is available for rent. Before borrowing a DVD from the company, a customer must first register as a member of a local branch. The data held on a member is the first and last name, address, and the date that the member registered at a branch. Each member is given a member number, which is unique throughout all branches of the company. Once registered, a member is free to rent DVDs, up to a maximum of ten at any one time. The data held on each DVD rented is the rental number, the full name and number of the member, the DVD number, title, and daily rental, and the dates the DVD is rented out and returned. The DVD number is unique throughout the company.

1. Represent in an ER diagram:

- (a) Entity sets.
- (b) Relationship sets.

- (c) Multiplicity constraints for each relationship sets.
 - (d) Attributes of entity sets and relationship sets, if any.
 - (e) Primary key attribute(s) for each strong entity set, discriminator attribute(s) for each weak entity set, if there is any.
2. Create the Relational Diagram on the basis of the ER diagram created in the earlier exercise.
 3. Create a MYSQL script that will create a database on the MYSQL server that captures all user requirements.

State any assumptions necessary to support your design decisions.