CP363: Assignment 1 – Winter 2024
Due on February 4, 2024 (Before 11:55 PM)

General Instructions:

This is an individual assignment, and the solutions should be uploaded to MyLS (Dropbox). The assignment should be submitted in PDF format.

Important Notes:

- Please note that the submitted files will be checked for plagiarism and structural similarity. By submitting these files, you would confirm that you have not received any unauthorized assistance in preparing the assignment. You also confirm that you are aware of course policies for submitted work.
- Multiple attempts will be allowed, but only your last submission before the deadline will be graded. We reserve the right to take off points for not following directions.
- Late policy: If you have a compelling reason for not being able to submit the assignment on time and would like to make a special arrangement, you must send me an email at least a week before the due date (an individual basis will handle any genuine emergencies).

Questions:

Q1(8 Marks). Design an entity–relationship diagram for the CONFERENCE_REVIEW database in which researchers submit their research papers for consideration. Reviews by reviewers are recorded for use in the paper selection process. The database system caters primarily to reviewers who record answers to evaluation questions for each paper they review and make recommendations regarding whether to accept or reject the paper. The data requirements are summarized as follows:

- Authors of papers are uniquely identified by email ID. First and last names are also recorded.
- Each paper is assigned a unique identifier by the system and is described by a title, abstract, and the name of the electronic file containing the paper.
- A paper may have multiple authors, but one of the authors is designated as the contact author.
- Reviewers of papers are uniquely identified by e-mail address. Each reviewer's first name, last name, phone number, affiliation, and topics of interest are also recorded.
- Each paper is assigned between two and four reviewers. A reviewer rates each paper assigned to him or her on a scale of 1 to 10 in four categories: technical

merit, readability, originality, and relevance to the conference. Finally, each reviewer provides an overall recommendation regarding each paper.

- Each review contains two types of written comments: one to be seen by the review committee only and the other as feedback to the author(s).

Note: 1. You can either use ERAssistant, https://erdplus.com/, or mysqlworkbench to create ER diagrams or You can also submit a hand-drawn diagram.

Q2 (6 Marks). UPS prides itself on having up-to-date information on each shipped item's processing and location. To do this, UPS relies on a company-wide information system. Shipped items are the heart of the UPS product tracking information system. Shipped items can be characterized by item number (unique), weight, dimensions, insurance amount, destination, and final delivery date. Shipped items are received into the UPS system at a single retail center. Retail centers are characterized by their type, uniqueID, and address. Shipped items arrive at their destination via one or more standard UPS transportation events (i.e., flights, truck deliveries). These transportation events are characterized by a unique scheduleNumber, a type (e.g, flight, truck), and a deliveryRoute.

From the requirements above, identify the following.

- the entities,
- the attributes
- relationships with cardinality

Q3 (5 Marks). The following tables form part of a database held in a relational DBMS. Identify the foreign keys in this schema. Explain how the entity and referential integrity rules apply to these relations.

Hotel (hotelNo, hotelName, city)
Room (roomNo, hotelNo, type, price)
Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)
Guest (guestNo, guestName, guestAddress)
where Hotel contains hotel details and hotelNo is the primary key;
Room contains room details for each hotel and (roomNo, hoteINo) forms the primary key;
Booking contains details of bookings and (hoteINo, guestNo, dateFrom) forms the primary key;
Guest contains guest details and guestNo is the primary key.

Q4 (5 Marks). Consider the following relations for a database that keeps track of student enrollment in courses and the books adopted for each course. Draw a relational schema diagram specifying the foreign keys for this schema.

STUDENT (SSN, Name, Major, Bdate)

COURSE (Course#, Cname, Dept)

ENROLL (SSN, Course#, Quarter, Grade)

BOOK_ADOPTION (Course#, Quarter, Book_ISBN)

Q5 (6 Marks). For the following binary relationships, suggest cardinality ratios based on the common-sense meaning of the entity types. Please make sure to mention any assumptions you make in your statements clearly.

Entity 1	***Cardinality Ratio***	***Entity 2***
STUDENT		*SOCIAL_SECURITY_CARD*
STUDENT		*TEACHER*
CLASSROOM		*WALL*
COUNTRY		*CURRENT_PRESIDENT*
CLASS		*INSTRUCTOR*
INSTRUCTOR		*OFFICE*

Best of luck for the assignment#####