Institute of Business & Information Technology

Faculty of Business, Economics & Administrative Sciences

University of the Punjab

Quaid-e-Azam Campus, Lahore

Assignment 02 ~ Relational Model

Spring Term 2025

Code: IT-261   **Degree:** BBIT

Title: Relational Database Management System   **Batch:** F20 MB & AB

Instructor: Mr. Saleem Raza   **Date:** April 9, 2025

Due Date: **Wednesday March 26, 2025 to CR**   **Marks:** 75 min

Instructions:

1. Do not forget to pray before starting to attempt the paper. Trust me it helps.
   Remember! SOMEONE is always with you (Be Relaxed), and HE is also watching you (Be Honest)
2. **Print this Assignment on A4/Letter Size otherwise Assignment will NOT be Accepted/Evaluated.**
3. **Questions are SELF EXPLANATORY. Understanding the Question Paper is part of Solution.**
4. Nothing Beyond the Finish Line will be Evaluated. Back Side of Pages is Beyond Finish Line.
5. For Calculations etc. Use the back side of the pages.
6. Solve your Assignment using Black/Blue Pen ONLY.
7. Error in Question will be advantageous to Student.
8. Read the Questions carefully before attempting.
9. **Copied/Shared Work will be awarded ZERO.**
10. Attempt All Questions in a Precise Fashion.

Good Luck

Roll No.: _____   **Name:** _____

Class: ☐ MA   ☐ AA   ☐ MB   ☐ AB   **Signature:** _____

Q 01.	Q 02.	Q 03.	Q 04.	Q 05.	Q 06.	Q 07.	Q 08.	Q 09.	Q 10.	Total
35	40									75

Invigilator's Signature	Examiner's Signature

Question No 01.   35

Keenly Read the Following Business Scenario

Introduction:

Raza Estate Consultants, owned by Mr. Abu Baker, is nationwide real estate consultants facilitating property buyers, sellers and investors. REC has its offices nationwide, supervised by the head office in the Lahore. Each Office has an Administrator, 2 or 3 Architects, 2 to 5 computer professionals, 2 to 5 video makers, 3 to 10 Couriers, 1 or 2 office boys and 2 to 5 sanitary workers on payroll and a team of legal advisors, a team of executives to materialize the deals, on commission basis.

REC has more than 5000 investors registered from the whole country and an average of 250,000 customers visits REC offices per month to consult and take advise about buying or selling of properties. REC not only deals in buying and selling of property but also deals in renting the commercial, industrial, and agricultural land on lease.

Scenario:

Sellers registered their properties categorized as offices, residential flats, homes, floors, complete plaza or society with the location, dimensions, number of rooms and provisions and rent or price etc. REC nominates the video maker to make videos of the vicinity to be uploaded on website for buyer's preview. Seller must provide the copies of relevant documents to ensure the authenticity and avoid any fraudulent activity.

Buyers provide their requirement in relevant category with desired specification and price range. Administrator assigns an executive after getting basic information about the buyer's requirements. A buyer is registered/promoted as investor when either he/she finales at least 5 deals in 4 months or on securing a business volume of 50Million in 4 months.
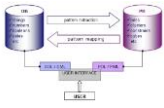
Investors must provide their NTN, copy of last tax return and latest one-year bank statement(s) to be determine their gravity and ranking. Each investor is assigned to an executive based upon his city to provide the best services. Investors rank (range from 1 to 100) is updated by one when he/she completes 5 deals in one quarter or gives a business of 100Million. Investors attain a 5% cut on the commission amount if they are in ranked above 75. Investors are updated with the available opportunities on daily and weekly basis about based upon their interests like area, category, and investment through personal calls by the assigned executive as well as WhatsApp and email.

REC has policy of charging a commission of 35% each from both parties in case of rent or lease deeds, whereas commission of 1.25% from seller and 0.75% from buyer is charged on sale transactions. REC also charges for legal services and documentation of agreement. REC shares the commission with its executives on the relevant deals as per executive's seniority level.

Identify the Relations along with their domains in the above scenario?   **10**

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Identity the Relationships along with their cardinality? 10

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Draw the Relational Model for this Business Scenario 15

Question No 02. 40
General Description

The Metropolitan Hotel is an independent hotel located in a midsize city. It has 300 guestrooms 10 meeting rooms and 5 banquet rooms. Normally 80% rooms are occupied, with an average length of stay of 3 days. Meeting rooms are reserved at least a week in advance. The banquet halls are used for various social functions such as dances and wedding receptions. They are usually booked several months in advance. The hotel also has 2 restaurants and 1 coffee shop. In the lobby, there are several small shops, including a jeweler, a beauty shop, and a clothing boutique. Confectioner who pay a flat rental operate the lobby shops.
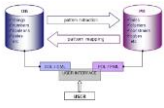
Basic Operations

Guest room reservations are usually made by individuals or their travel agents several days in advance using credit card number to guarantee the reservation. At the time they specify the type of accommodation desired, the number of people who will occupy the room, the date, estimated time of arrival and the length of stay. The hotel makes the reservation and returns a confirmation number. Customers who confirmed reservation are guaranteed a room. If they do not show up and do not cancel they are charged for one day. Guests may extend their stay beyond the stated length if rooms are available. Customers without reservation are also accepted if they are rooms available.

Hotel guests may enjoy meal at the restaurants or coffee shop to their rooms and the charge will appear on their room bill. Room service charges for items delivered to a guest's room or a meeting room are also added to bill. Telephone calls from room are automatically charged to the room. Telephone charges include the actual charge determined by the Telephone Company and a service fee of 50 cents per call. There is no charge for incoming calls.

Meeting rooms are usually booked about a month in advance. A deposit is required at the booking time. They are ordinarily reserved by business people for meetings. Each meeting room is furnished with a large table and chairs for approximately 25 people. Room dividers can rolled back to combine to or more rooms and provide a larger meeting space. There is a flat rate for use if each room for four hour duration. At the customer's request audiovisual equipment owned by the hotel can be setup in the room at no additional charge. If the special equipment that must be rented is need hotel charges the rental setup fee. There are additional charges for food or beverage services if any. Bills for the use of meeting rooms are prepared immediately after the meeting and customer must pay the bill with in 30days.

The five banquet rooms are design for a capacity of 100, 150, 200, 300, and 500 persons respectively. Customers who may be individuals or corporations book the rooms for the various events such as political fundraisers, dances, or wedding receptions etc. The customer must guarantee a minimum of 75 percent of occupancy to reserve a banquet room. Reservations are accepted up to two years in advance. Each room can be reserved for 2 banquets/day in the afternoon and the evening. Each banquet is scheduled to last for five hours at the most. There is a one-hour room preparation time between banquets. Customers who reserve banquet rooms are required to provide a deposit, which they forfeit if they cancel.

When a customer reserves a banquet room, he or she specifies the date, the time, the number of guests expected, the room desired, and the menu. The hotel estimates the cost per person, assign the room, and draw up a contract which is then signed by both parties. The customer pays a deposit of 25%. As the event nears the final menu is selected and the guest count is provided usually resulting in a modification of the contract. The customer will be charged according to the final guest count even if fewer guests attend. If additional guest attend there is a charge for each extra person at the per person rate. The hotel provides the room and the related facilities, the table settings, floral arrangements, waiters and waitresses, the food and beverages services, all of which are specified in the contract. Musicians entertainers, photographers, or other non-hotel employees are provided by the customer, but the hotel management must be told in advance who will be providing any of these services and can refuse to admit any one it deems unsuitable. The final bill is prepared immediately after the event, and the customer must pay it within 30 days.

List the Real-World Data of Raza Real Estate.   **10**

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Identity the Relationships along with their cardinality?   **10**

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Draw the Relational Model for this Business Scenario 20

Finish Line

Nothing beyond this line will be evaluated