

Mid Term Assignment Spring 2020

Course Title: Database Systems

Instructor: Rimsha Khan

Total Marks: 30

NOTE: Understanding the paper is part of solving the paper so no questions will be entertained.

INSTRUCTIONS:

1. Write your names and IDS at top of each paper.
2. Scan / Take clear photo of each paper and save it with a number. E.g. photo of paper 1 of answer sheet be saved with name 1.jpg, then 2.jpg and so on.
3. Put answer photos/pdf in a folder, name the folder with subject, ID and student name
4. Zip the folder and upload it.

Q: Answer the following Short Question in maximum 2 to 3 lines. (12 Marks)

1. Which attribute in the following table is a candidate key? Assume that no more data will ever be added to this table. (2 Marks)

ID	Name	Semester	Department	Cell
1	Sania	1	CS	03334324234
2	Romaisa	1	CS	03335399123
3	Alina	1	CS	03150034224
4	Ayeza	3	CS	03455559822

2. What is Data Redundancy and Data Integrity? (2 Marks)

3 How a multivalued composite attribute is represented in **Conceptual Model**. Show with example. (2 Marks)

4. How is there 'reduced maintenance' in database approach? (2 Marks)

5. How are the following represented using ER Diagram: Mandatory one, Mandatory many, Optional one, Optional Many? (2 Marks)

6. Why is there an explicit need of backup in database approach? (2 Marks)

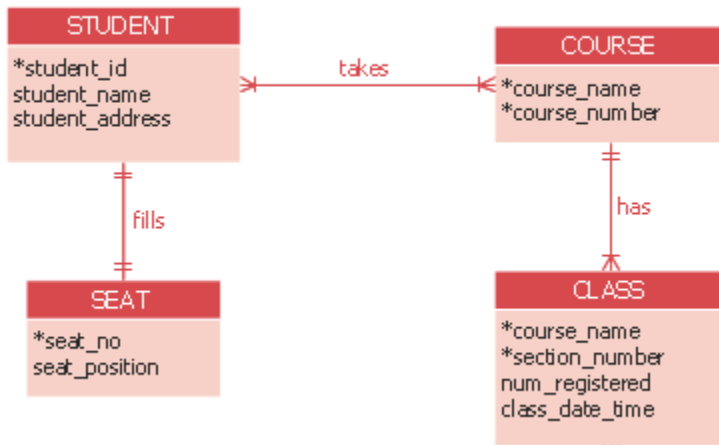
Q 2: Draw an ERD from the following business rules: Use proper notations for the type of attributes (Marks 10)

A schema needs to capture all the information that An Art gallery need to maintain.

- The database shall keep information about Artists, their names (which are unique), birthplace, age, and style of art.

- For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g. painting lithography, sculpture, photograph), and its price must be stored.
- Pieces of artwork are also classified into groups of various kinds for example, potraits, still lifes, works by Picasso, or works of the 19th century.
- A given piece may belong to more than one group.
- Each group identified by a name that describes the group.
- Finally galleries keep the Customer's unique name, address, total amount of dollars spent in the gallery and the artist and groups of the art that the customer tends to like

Q 3: Convert the following Conceptual Model to Relational Model. (Marks 8)



*****Good Luck 😊*****