

Title: Conceptual design using ER model - Healthcare management System

Tools Required:

<https://draw.io> (or createely) ERD Plus)

Steps involved in creating ER diagram,

Step 1: Problem understanding & Requirement analysis

\* Analyze the real-world application: Healthcare management System.

\* Understand the domain: Hospitals, Patients, Doctors, Appointments, Prescriptions.

Step 2: Identify major entities

Entities are core components representing objects or concepts in the system.

Patient

Doctor

Appointment

Prescription

Medicine

Department

Step 3: Identify attributes for each entity.

Example attributes:

Entity attributes

Patient: Patient ID (PK), Name, Age, Gender, Phone, Address

Doctor: Doctor ID (PK), Name, Specialization, Contact No, Department

Appointment: Appointment (PK), Patient (FK), Doctor (FK), Date

Prescription: Prescription (ID), Appointment (FK), Diagnosis, Note

Department: Department(PK), Name, Location

Step 4: Define Relationships between Entities

- \* A Patient books one or more appointments

- \* A doctor conducts many appointments

- \* An appointment generates one Prescription

- \* A Prescription includes many medicines

- \* A doctor belongs to one department

Step 5: Draw ER diagram using

- \* Open <https://draw.io>

- \* choose Blank diagram  $\rightarrow$  click create

- \* From left Panel, drag the following:

- \* use rectangles for entities (Patient, Doctor)

- \* use ellipses for attributes

Example relationships:

- \* Patient (1) - books  $\rightarrow$  (M) Appointment

- \* Doctor (1) - conducts  $\rightarrow$  (M) Appointment

- \* Appointment (1) - generates  $\rightarrow$  (1) Prescription

- \* Prescription (1) - includes  $\rightarrow$  (M) Medicine

- \* Save diagram as PNG/PDF and include it on your lab report

Input for ER diagram

Real time healthcare system scenario

User requirements (Patient management, doctor scheduling, medical records)

Database design rule (Entity-attribute-Relationship identification)

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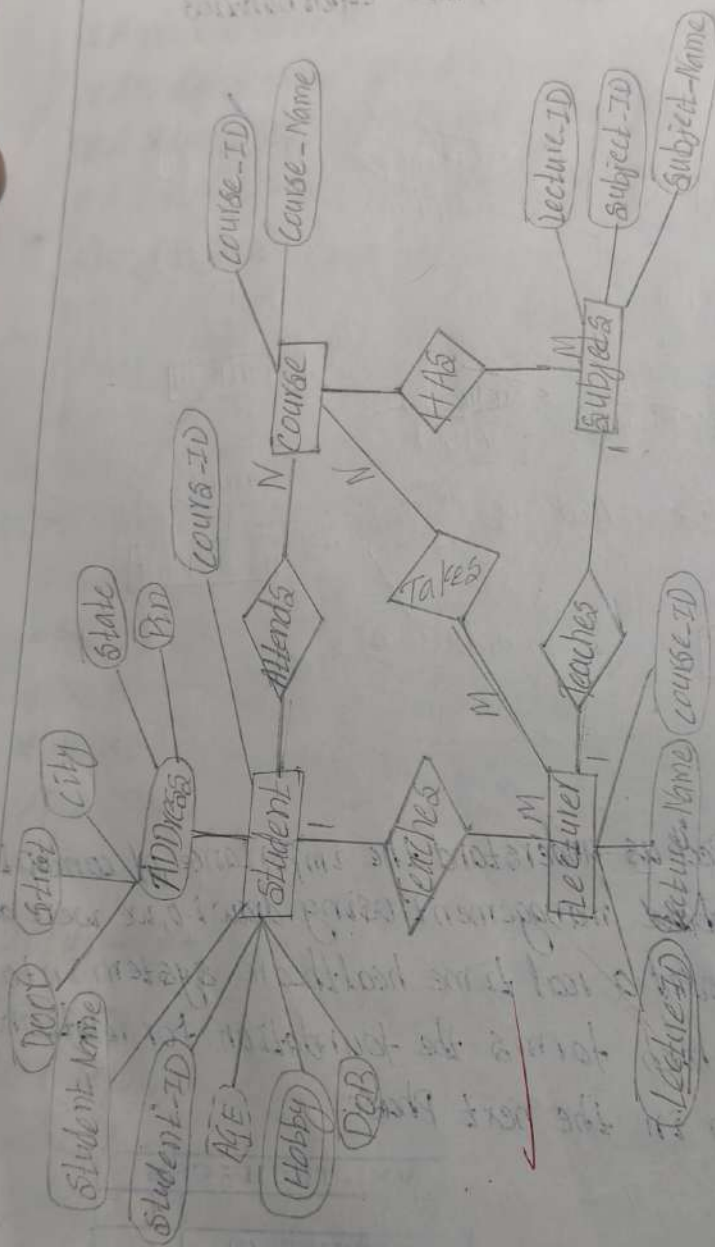
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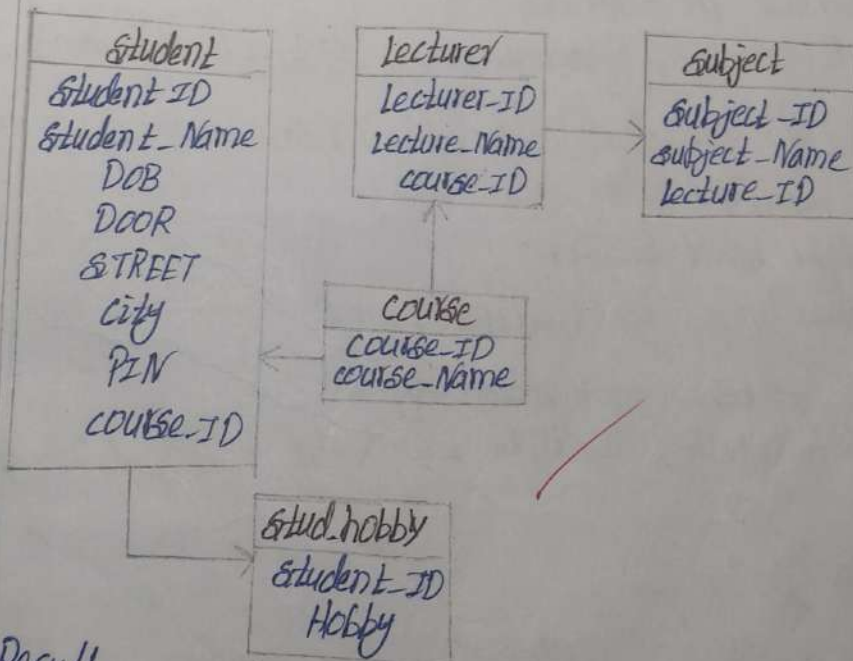
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Steps for converting the ER diagram to the table

- \* Entity type becomes a table.
- \* All single-valued attribute becomes a column for the table.
- \* A key attribute of the entity type represented by a separate Primary key.
- \* Composite attribute represented by components.
- \* Derived attributes are not considered in table.

Using these rules, you can convert the ER diagram to table and columns and assign the mapping between the table. Table structure for the given ER diagram is as below:



Result

Thus the convert ER diagram into relation model has successfully create

VEL TECH - CSE	
EX NO.	1
PERFORMANCE (5)	
RESULT AND ANALYSIS (5)	
VOICE (5)	
GOOD (5)	
DATE	