Date : 4/8/25 Task : 1 a

Title : Conceptual Design using ER Model - Healthcare Management System

Aim: To draw a conceptual Design using ER diagram with the help of draw.io.

Steps involved in creating ER Diagram

Step1: Problem understanding & Requirement Analysis

→ Analyze the real world application

→ System : Real time healthcare Management system.

→ Goal : Manage hospitals, patient, doctors, appointments, prescriptions, and medicine.

Step 2: Identify major entities

- Patient
- Doctor
- Appointment
- prescription
- Medicine
- Department

Step 3: Define Entity Attributes

Entity	Attributes
Patient	PatientID (PK), Name, Age, Gender, phone, Address
Doctor	DoctorID (PK), Name, specialization, contact no, DepartmentID (FK)
Appointment	AppointmentID (PK), PatientID (FK), DoctorID (FK), Date, time.
Prescription	prescriptionID (PK), AppointmentID (FK), Diagnosis, notes.
Medicine	MedicineID (PK), Name, ...

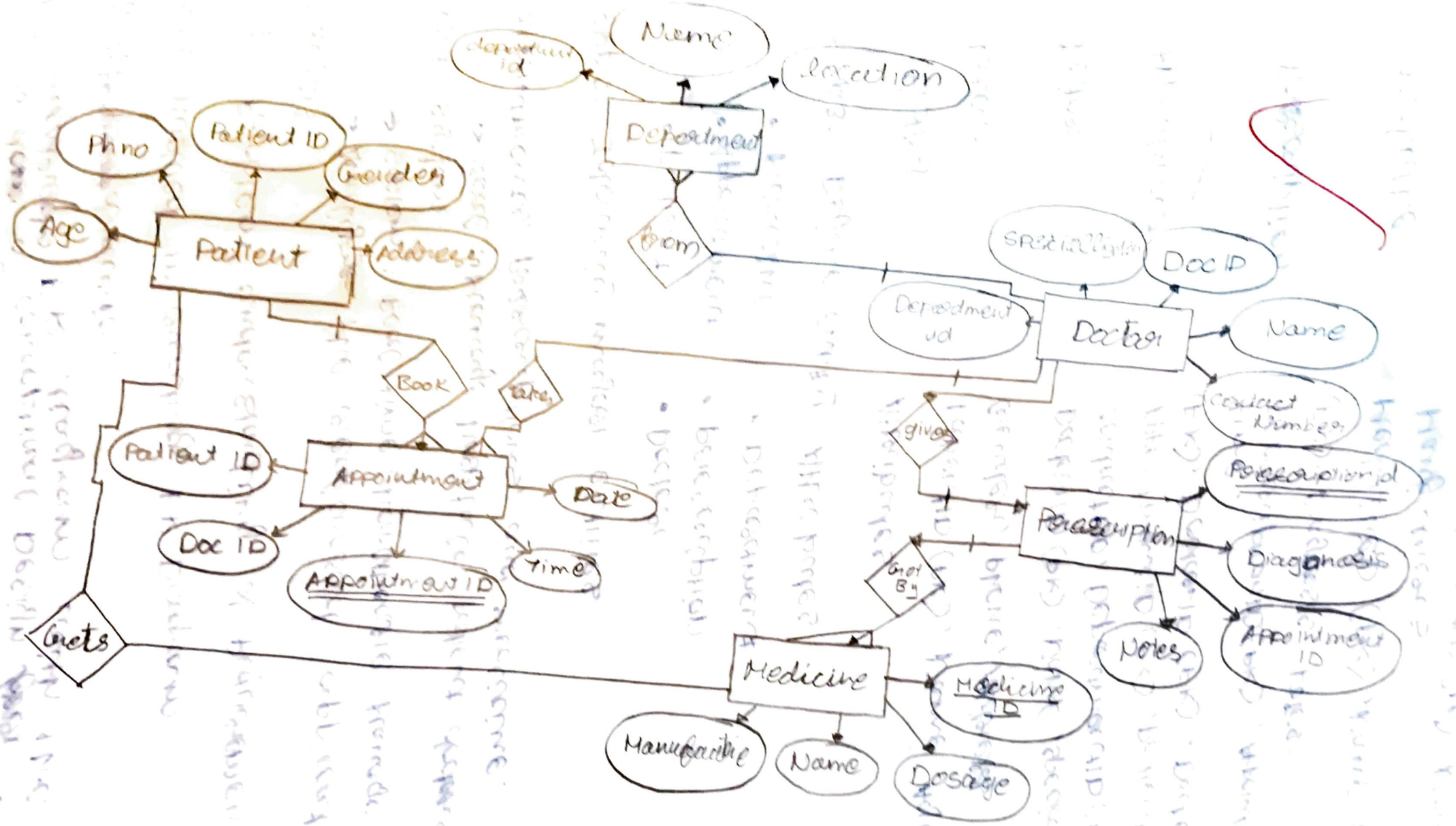
Step 4 : Define Relationships Between Entities

Relationship	Description	cardinality
Patient - Appointment	- A patient can book many appointments	1 : M
Doctor - Appointment	- A doctor can handle many appointments	1 : M
Appointment - Prescription	- One prescription per appointment	1 : 1
Prescription - Medicine	- A prescription can include multiple medicines	1 : M
Doctor - Department	- A doctor belongs to one department	M : 1

Step 5: Draw the ER Diagram

Instructions to Draw

1. Go to https://draw.io
2. Create a Blank Diagram → click create
3. use shapes from the side bar
   - Rectangle = Entities
   - Ellipse = Attributes
   - Diamond = Relationships
4. connect entities and Relationships using lines:
   - solid lines between entites and Relationship diamonds
   - Add cables for cardinality.
5. Notations:
   - underline or dable primary keys


Name
location
Department
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Patient ID
Gender
Age
Patient
Address
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SPECIALIZATION
Doc ID
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Doctor
Name
Book
take
Conduct Number
give
Patient ID
Appointment
Date
Doc ID
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Given By
Diagnosis
Notes
Appointment ID
Medicine
Medicine ID
Manufacture
Name
Dosage

VELTECH	
EX No.	
PERFORMANCE (5)	
RESULT AND ANALYSIS (3)	
VIVA VOCE (3)	
RECORD (4)	
TOTAL (15)	
SIGN WITH DATE	

VELTECH - CSE	
EX NO.	4.1
PERFORMANCE (5)	5
RESULT AND ANALYSIS	5
VIVA VOCE (5)	3
RECORD (5)	—
TOTAL (20)	13
SIGN WITH DATE	

Reseet :

Thus drawn the ER Diagrams of healthcare Database using Draw.io.

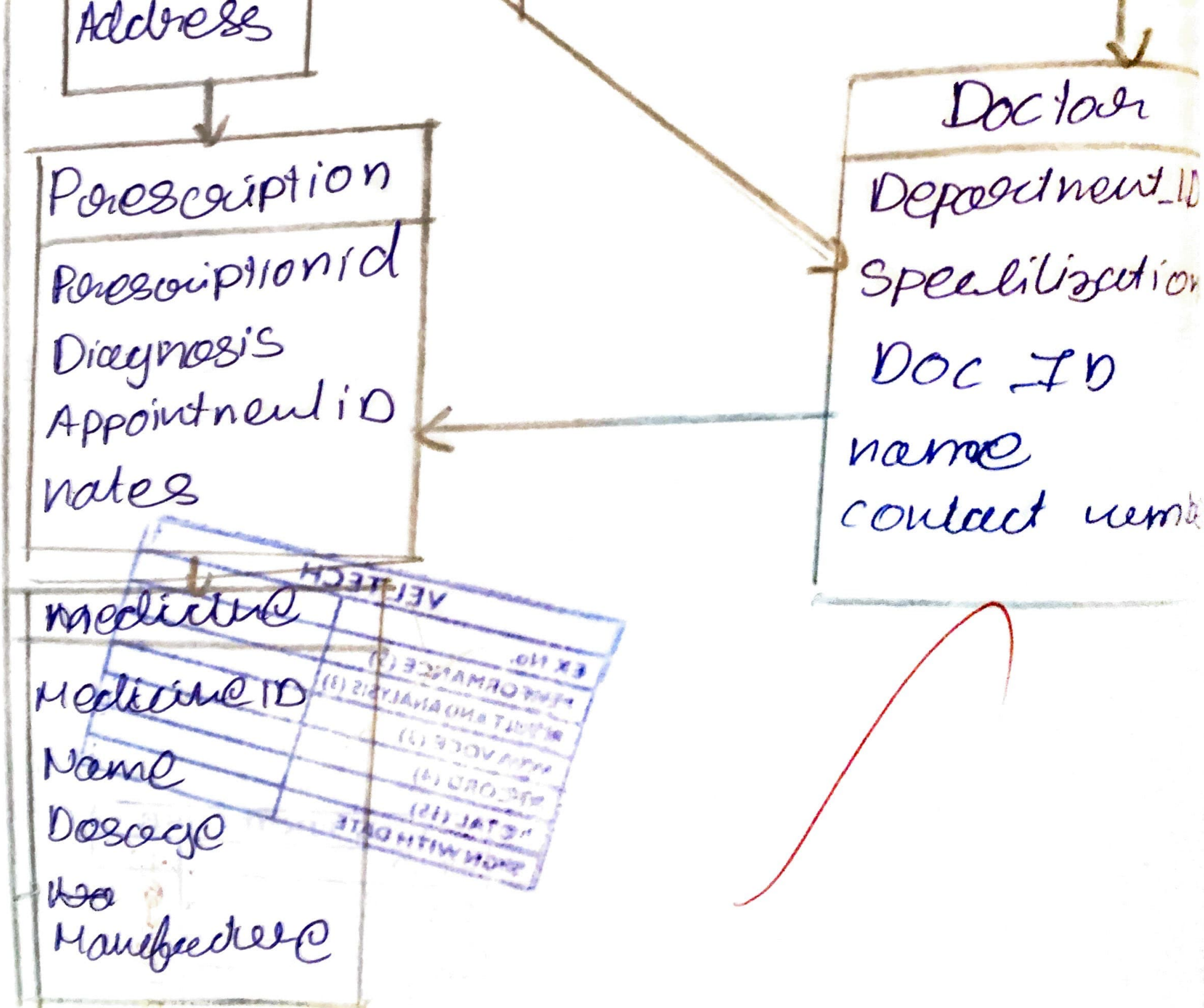
Date: 4/8/25 Task 2(b) Task: 1b

Aim:

Convert ER Diagram into Relational Model

Steps:

- Entity type becomes a table
- All single-valued attribute becomes a column for the table
- Key attribute of the entity type represented by the primary key
- The multivalued attribute is represented by components.
- Derived attributes are not considered in table.


Address
Doctor
Department_ID
Specilization
Doc_ID
name
contact numb
Prescription
Prescriptionid
Diagnosis
Appointmentid
notes
medicine
MedicineID
Name
Dosage
Use
Manufacturer

VEL TECH	
EX No.	
PERFORMANCE (5)	
RESULT AND ANALYSIS (3)	
VIVA VOCE (3)	
RECORD (4)	
TOTAL (15)	
SIGN WITH DATE	

VEL TECH - CSE	
EX NO.	1.2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	3
RECORD (5)	—
TOTAL (20)	13
SIGN WITH DATE	

Result:

Thus converted E R diagram to Relational Model.

9/8/17