Task - 1

Title :- Conceptual Design using ER model - Healthcare management System tools required

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, Appointment Prescriptions.

Step 2:- Identify major Entities

Entities are the Core Components representing objects or Concepts in the System

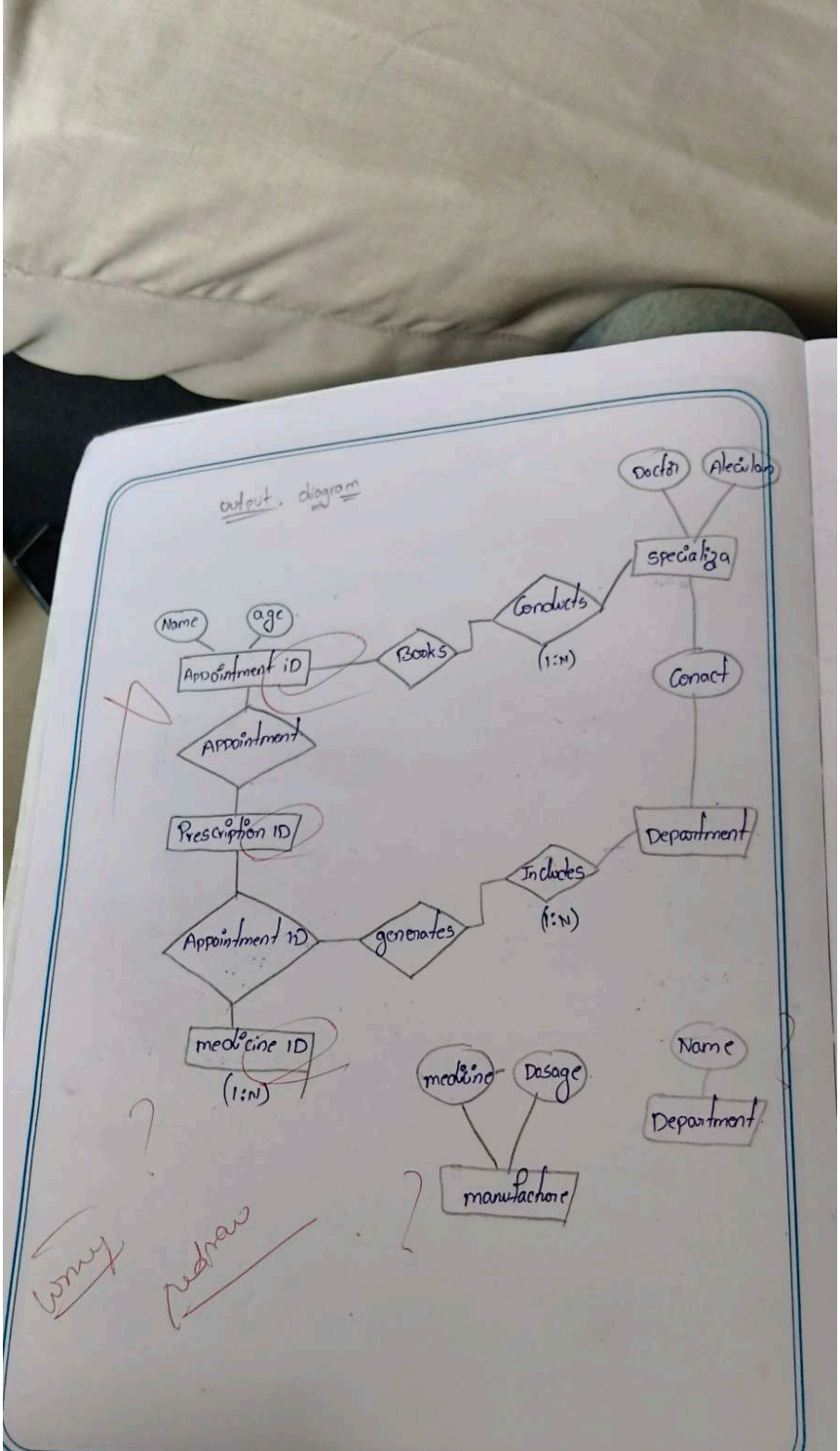
- Patient.
- Doctor
- Appointment
- Presciption
- Medicine.
- Department.

Step 3:-

Ex attributes

Entity Attributes

Patient: PatientID (PK). Name, Age, gender, phone, Address.


output diagram
Doctor
Allocation
specializa
Conducts
(1:N)
Name
age
Appointment ID
Books
Conact
Appointment
Prescription ID
Department
Includes
(1:N)
Appointment ID
generates
medicine ID
(1:N)
medicine
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Name
Department
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Doctor : Doctor ID (Pk), Name, Specialization, ContactNO, Department ID.
Appointment: Appointment ID (Pk), PatientID (Fk), DoctorID (Fk), Date, time Prescription: Prescription ID (Pk) Appointment ID (Fk), Diagnosis notes medicine: medicineID (Pk), Name, Dosage, manufacture.
Department: Department ID (Pk), Name, location

Step4: Define Relationship blw 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.

Step5: Draw ER Diagram using draw.io.

Instructions:-

* Open https://draw.io.
* Choose Blank diagram -> click Create.
* From left panel, drag the following.
* Use rectangles for Entities (patient, Doctor)
* Use ellipses for Attributes (Name, Age, etc)
* use diamonds for Relationships (Books, Conducts)
* Connect using lines.

Output

Entity Relationship Diagram (ERD) that clearly shows.

All identified entities with attributes.

All relationship with appropriate Cardinalities

forgin key & keys marked appropriately.

* use pk or underline to denote primary key.
* use double ellipse for multivalued attributes (if any)
* use labels such as (1:N), (m:N) etc. to show Cardinlities

Example relationships:-

* Patient(1) – books → (m) Appointment.
* Doctor (1) – Conducts → (m) Appointment.
* Appointment (1) – generates → (1) Prescription
* Prescription (1) – includes → (m) medicine.
* Save diagram as PNG/PDF and include in your lab report.

Input for the ER Design:-

Real-time Healthcare System Scenario.
User Requirements (Patient mangement, Doctor
Database Design Rules.

VEL TECH	
EX NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	—
TOTAL (20)	10
SIGN WITH DATE	

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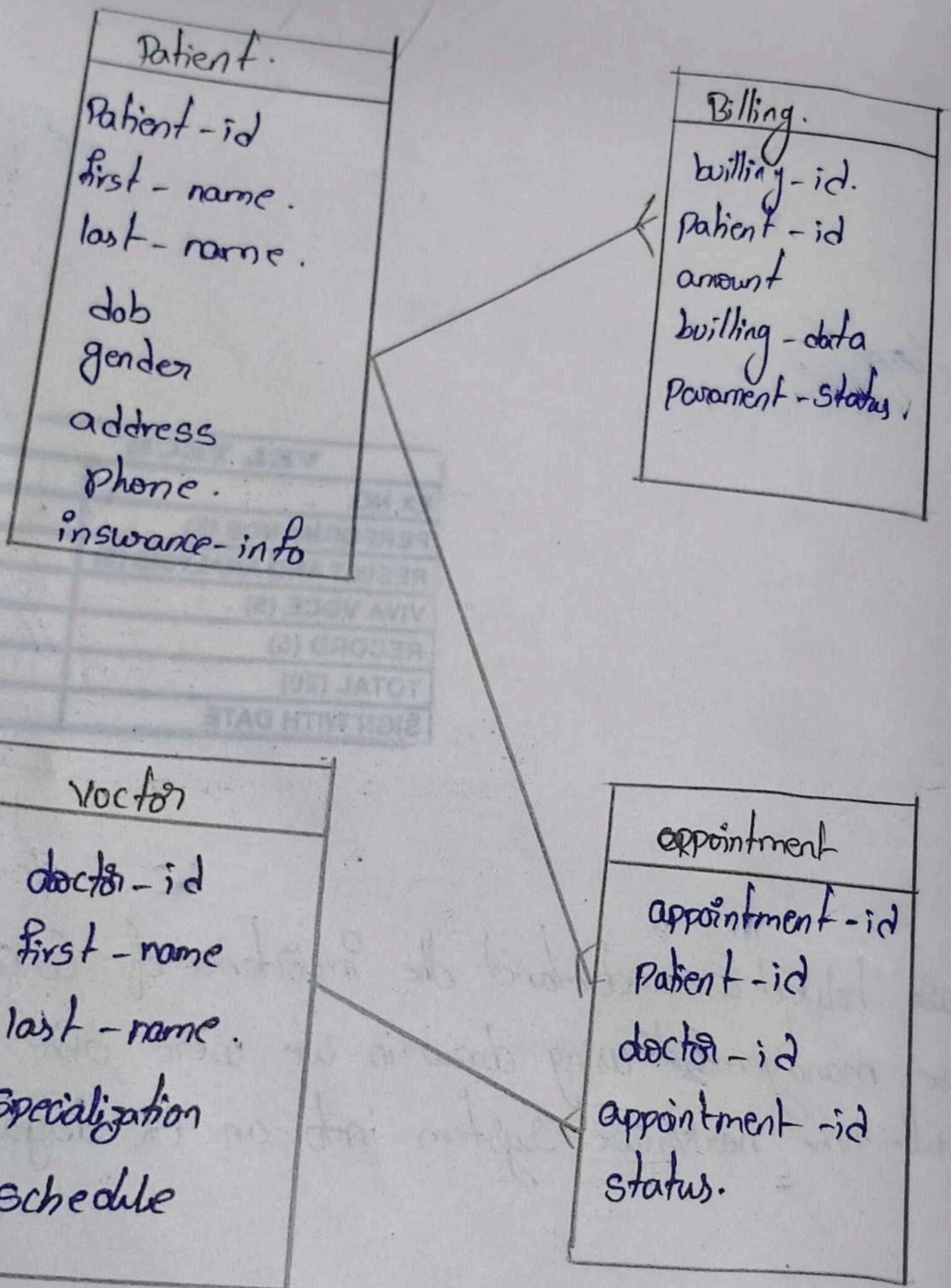
Result:-

This task helped us understand the importance of Conceptual design in database management. Using draw.io. we were able to visually model a real-time healthcare system into an ER diagram.


Patient.
Patient-id
first-name.
last-name.
dob
gender
address
phone.
insurance-info
Billing.
billing-id.
Patient-id
amount
billing-data
Payment-status.
Doctor
doctor-id
first-name
last-name.
Specialization
schedule
appointment
appointment-id
Patient-id
doctor-id
appointment-id
status.

1.Q: Convert ER Diagram into Relational model.

Aim:- Convert ER Diagram into Relational model

-) Entity type becomes a table.
-) All single valued attribute becomes a Colum for the table
-) A key attribute of the Entity type represented by the Primary key
-) The multivalued attribute represented by a separate table
-) Composite attribute represented by Components.
-) Derived attributes are not considered into table
-) using these rules, you can Convert the ER diagram to table & Columns & assign the mapping over the tables

VEL TECH	
EX NO.	1b
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (25)	25
SIGN WITH DATE	

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Result:- Thus Conversion ER diagram into relational modal is successfully Completed