

28/1/25

Healthcare Management System

Aim:

To a Conceptual Design using ER diagrams with help of draw.

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, Appointments, prescriptions.

Step 2: Identify Major Entities

Entities are components represents object or concept in the system.

Patient

Doctor

Appointment

prescription

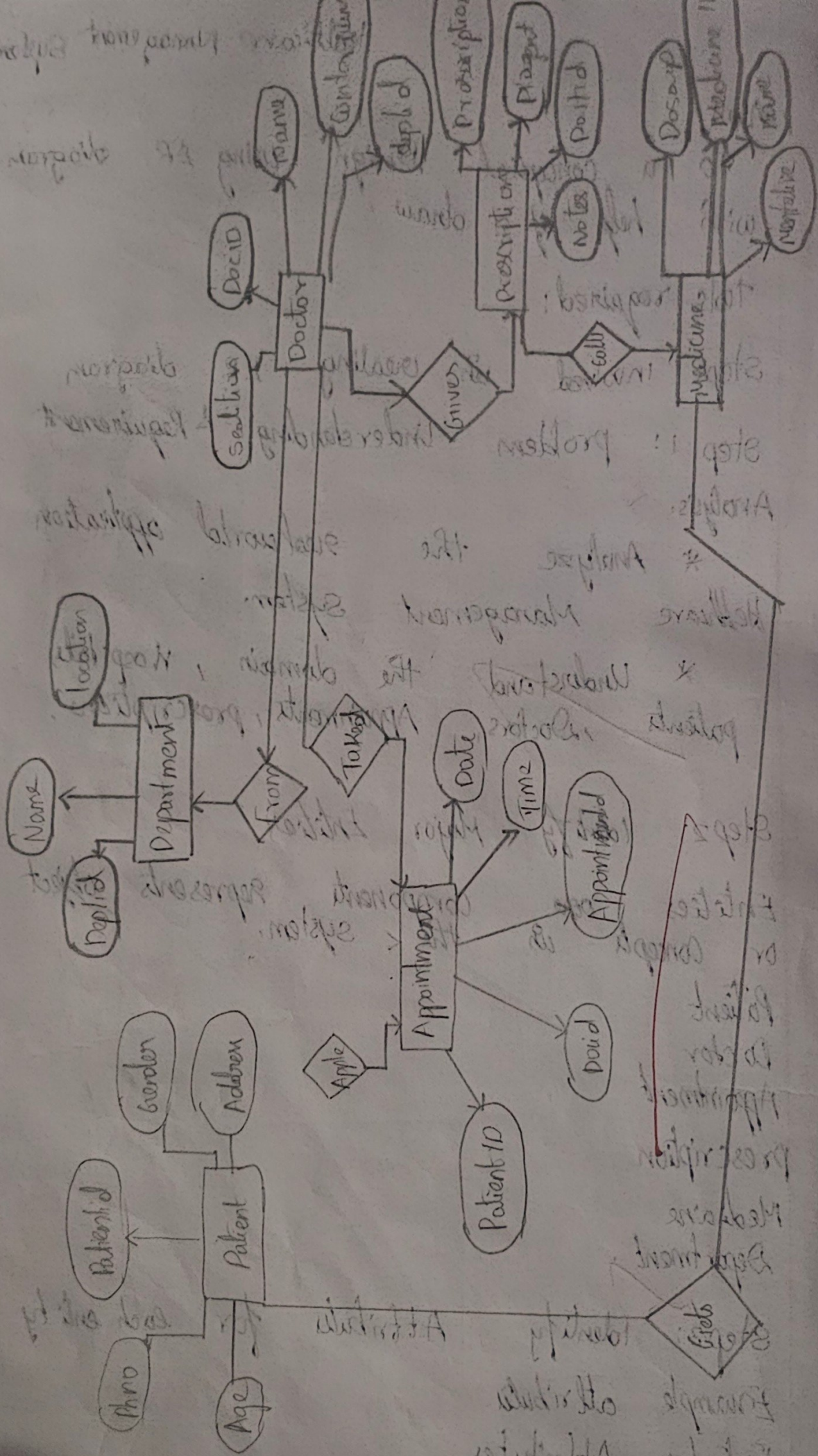
Medicine

Department

Step 3: Identify Attributes for each entity

Example attributes

Entity Attributes.



Step 4: Define Relationships b/w 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 draw.io

- * Choose Blank diagram \rightarrow click create
- * use rectangles for Entities (Patient, Doctor)
- * use ellipses for Attributes
- * use diamonds for relationship
- * connect using lines
- * use labs such as (1:n), (m:n) etc. to show cardinalities

Example relationships:

- * patient (1) - books \rightarrow (n) Appointments
- * Doctor (1) - conducts \rightarrow (n) Appointments
- * Appointment (1) \rightarrow generates \rightarrow (1) prescription

Input for the ER design
Real time Healthcare system scenarios
Database Design Rules (Entity-Attributes, Relationship identification).

Output:

Entity Relationship Diagram (ERD) that clearly shows:

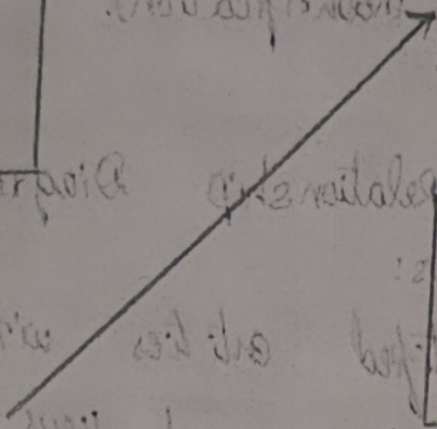
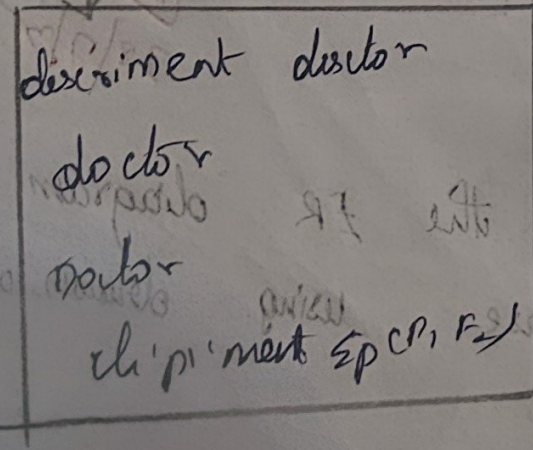
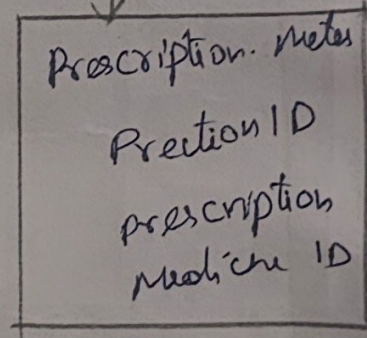
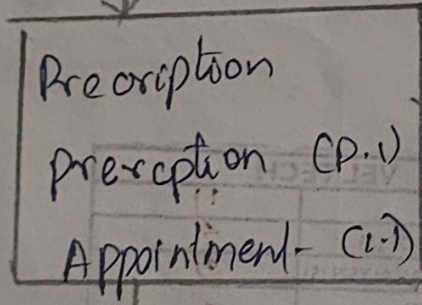
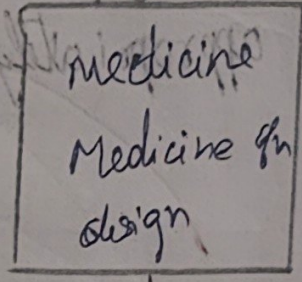
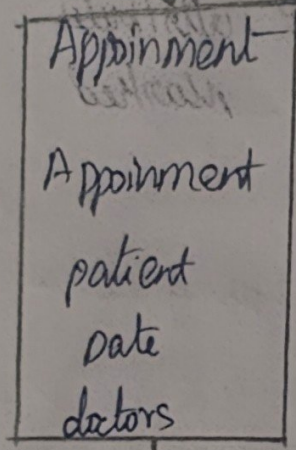
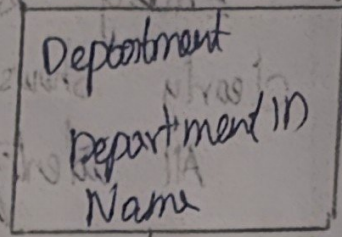
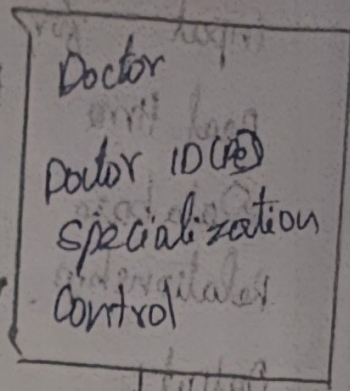
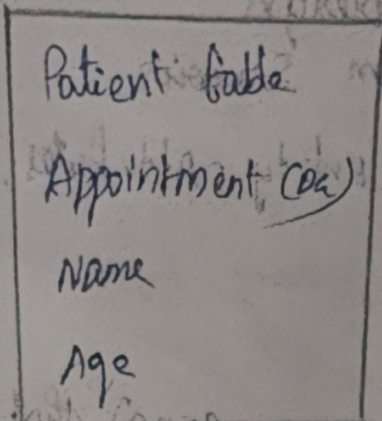
All identified entities with attributes.
Foreign keys and keys marked

appropriately.

VEL TECH	
EX No.	11
PERFORMANCE (5)	3
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	4
RECORD (5)	1
TOTAL (20)	14

Result:

Thus drawn the ER diagram of health care database using draw.io.



28/1/25 1.2 Convert ER diagram into relational

Aim:
To convert ER model diagram into relational model.

Steps for converting the ER diagram into the table.

- * Entity type becomes a table
- * All single-valued attribute becomes a column for the table.
- * A key attributes of the entity type represented as the primary key.

* Using these rules, you cannot convert the ER diagram into tables and for the given ER diagram is as below.

VEL TECH	
EX No.	21
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	14
SIGN WITH DATE	

Result:

The relational model for the given ER model was successfully converted.