TASK 1: Conceptual design ER model health and system:-

Aim:- Conceptual design ER Model health and system

Tools required:-

https://draw.io (or Creatly / ERD plus) steps Involved in Creating ER diagram

step:1:- Problem understanding and requirments Analysis

→ understand the domain: Hospitals Patients doctors; Appointments Participation

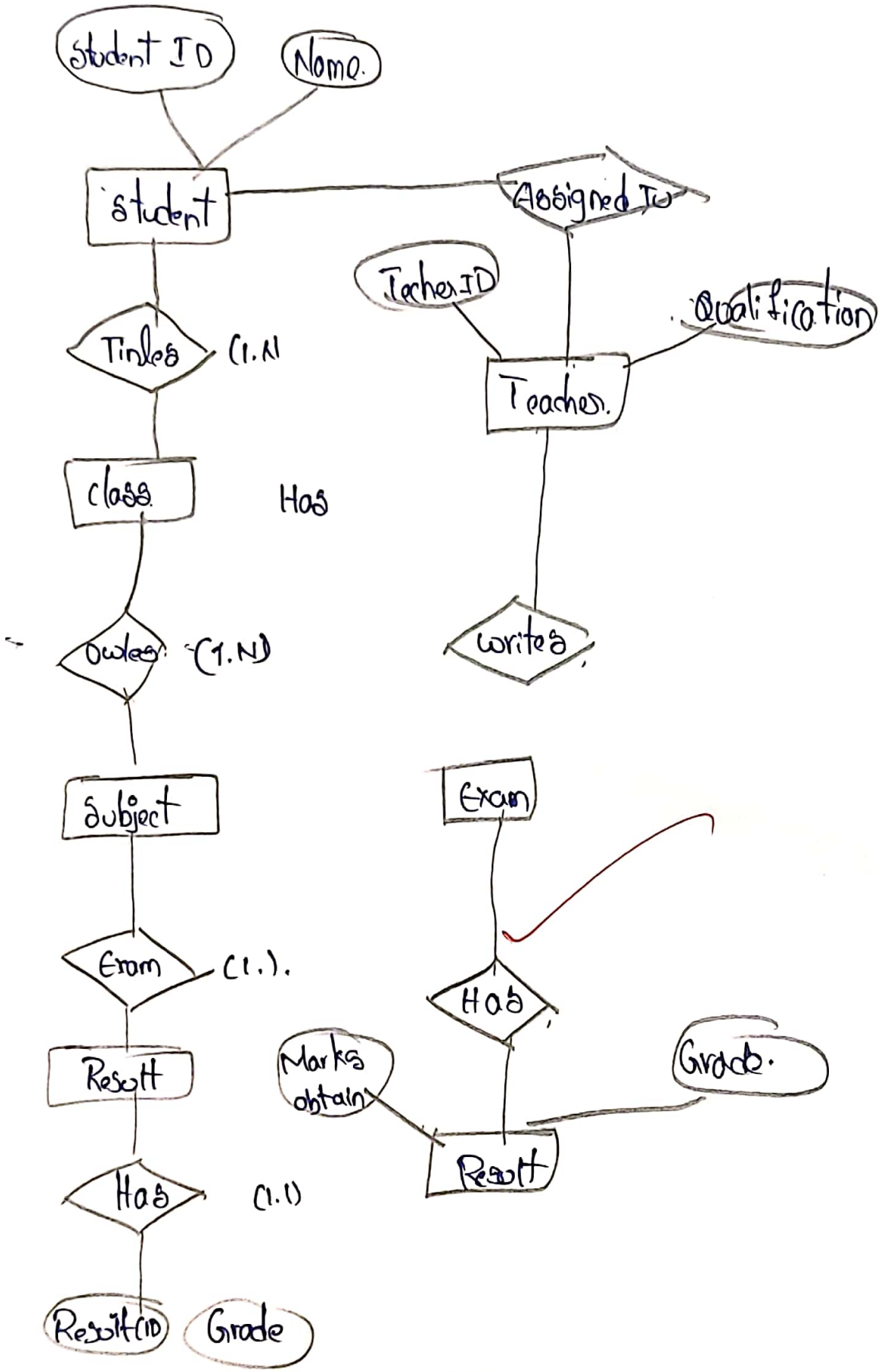
step:2:- Identify major entites are use lose Compounds representing objects of Concepts in the system

→ Patient
→ Doctor
→ Appointment
→ Prescription
→ Medicine
→ department

step-3:- Identify Attributes for each exitity

Example attributes:-

Entity Attributes:-



Patient :- Patient ID(PK) ; Name, age, Phone number; Address

Doctor:- Doctor (PK); Name ; Specilization Contact No , Department ID(FK)

APPointment :- APPointment ID(PK); Patient ID(FK) ; Doctor ID(FK) dark ; time.

Prescription:- Precription ID(PK) ; APPointment ID (FK), diagonisis Notes.

Medicines :- Medicines ID(PK); Name, Dosage, Mesortracture.

department :- department ID (PK) Name, location.

Step 4:- define relationships between entities

→ A Patient books one (or) more APPointments
→ A doctor Conducts gannates one Precription
→ A Precription includes many medicines
→ A doctor belongs to one department.

Step: 5:- draw ER diagram using.

io

Instruction :-

Open https://draw.io

Choose . Blank diagram ⟶ click crack

from left Panel drag the following

→ use rectangles for entites (Patient, doctor).

→ use rectangles for entities (Name, Age, etc...)

→ use diamonds for relationships (Books, Wonder)

Connect using lines

Solid lies for relationship Connections use pk at underline to denote Primary key

→ use double ellipse for multivalued attributes

→ use lables such as (1:N); (M:N); etc...

to show Cardinalities.

Example relationships :-

Patient (1) — books ⟶ (m) Appoiment

doctor (1) — Conducts ⟶ (m) Appointment

Appointment (1) — includes → (m) medicine Save diagram as PNG /pdf and include it any your lab report.

Input for the ER design:-

real-time health care systems, domains user requirements data base design rules (entity - Assistant), relationship Identification)

Output:-

Entity-relationship diagram (ERD),

that clarly shows

All identified entities with attributes

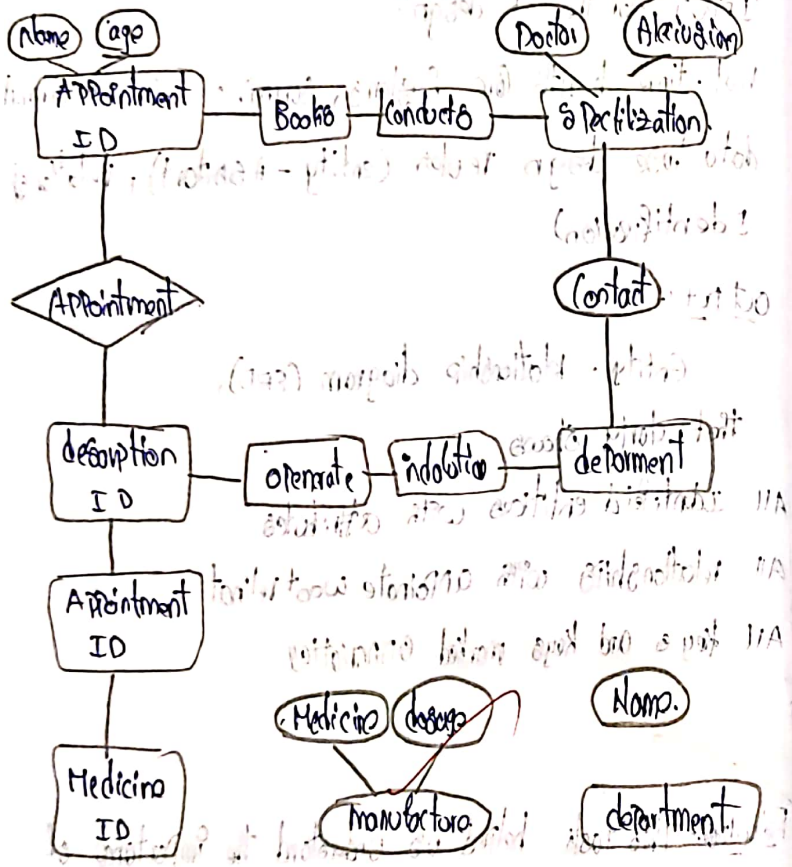
All relationships with appropriate cardinality

All keys and keys marked appropriately

Result:- This task helped us understand the importance of Conceptual design in data base managment using draw.io, we are able to easily model a real-time health care system into in a ER-diagram which from foundation for relational scheme design in the next phase.

VEL TECH	
EX No.	1.1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	5
VIVA VOCE (3)	2
RECORD (4)	—
TOTAL (15)	12
SIGN WITH DATE	28/17

ER diagram:



Date : 28/07/25

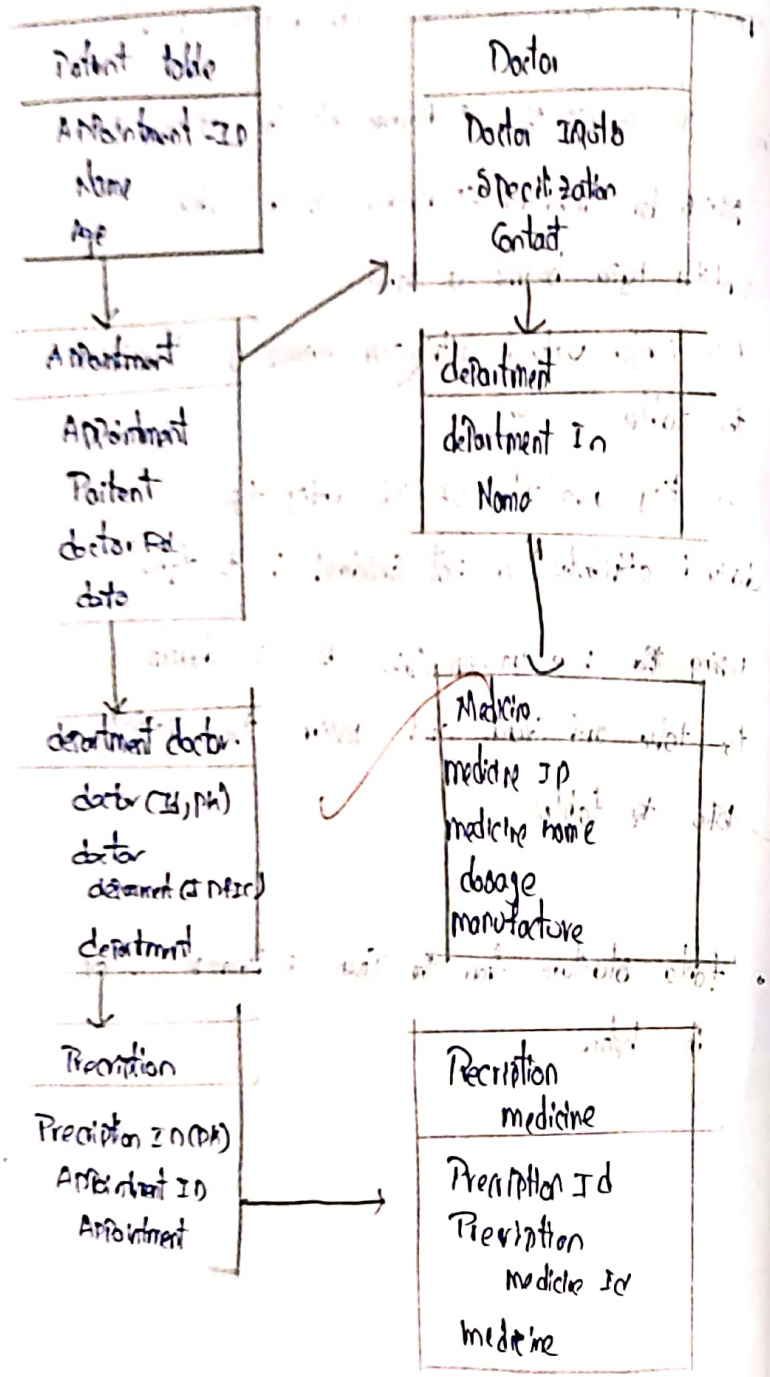
TASK : 1:2 : Convert ER diagram into relational model

Aim :- To Convert the ER diagram into the relational model

steps for Converting ER diagram to the table

- Entity type become a table
- All single valued attributes becomes a Column for the table
- A key available of the Entity type
- derived attributes are not considered in the table
- using these rule, you can Convert the ER diagram to table and Column and assign the mapping between the tables
- table structure from the given ER diagram is as in below.

Relational model:



VEL TECH - CSE	
EX NO.	1.2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	2
RECORD (5)	–
	12
	0
	25/7

25/7

Result: The relational model for the given ER diagram was successfully Completed.