TASK (1) 28/7/25

Conceptual design using ER Model

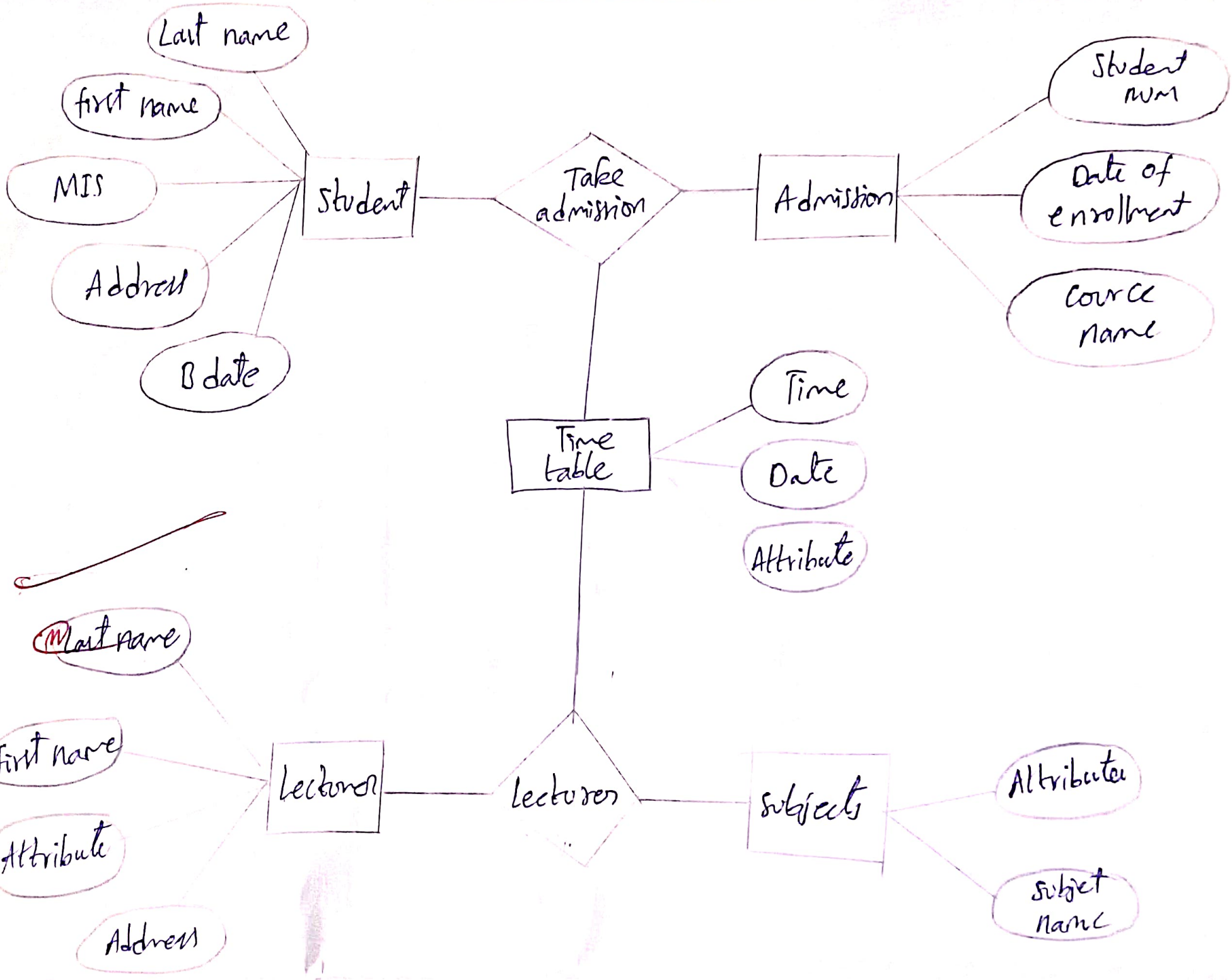
Tools Required:
https://draw.io (or creatly / ERD PLUS)

Steps involved in creating ER diagram

Step 1: Understanding
* Analyze the real world application:
College management system
* understand domain: student, addmission, lecture, subjects.

Step 2:- Identify, major Entities
Entities are core components responsending objects (or) concepts:
- students
- Admission
- Timetable
- Lecture
- subjects.

Step 3: Identity, Attributes for entity:
Entity Attributes
- Student: Name, student, ID, Address DOB, , Department
- Addmission: Admission-num, course name, date of enrollement, student ID.
- Timetable: Time, date, classes.


Last name
first name
MIS
Address
Bdate
Student
Take admission
Admission
Student num
Date of enrollment
Cource name
Time table
Time
Date
Attribute
Last name
first name
Attribute
Address
Lecturer
Lecturers
Subjects
Attributes
Subject name

Lecturer: Name, Lecturer-ID, Gender, department, Ph-num

Subjects: subject-name, subject code,

Step 4: Relationship b/w entities.

* Students take one (or) more Admissions.
* Admission Student gets timetable
* Time table gives one (or) more Lecturers.
* Lecturers teaches one (or) more subjects.

Step 5: Draw ER diagram using draw.io

* Open https://drawio
* Choose blank diagram → click create
* from left panel, draws the following
* use ellipes for attributes
* connect using lines:
* solid lines for relationship connectors.

Input for ER design

Real-time College management system scenario. use requirements Data base design rules (Entits - Attribute - Relationship).

Output:-

Entity Relationship diagram (ERD) that shows

* All identified entities with attributes.
* All relationship with appropriate cardinalities.

VELTECH	
EX No.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	15
SIGN WITH DATE	28/8/25

Result:- This task helped us understand the importance of concepted design in database management using draw.io; we were able to visually model to a real-time college management system into an ER diagram.

Task (1.B) 28/7/25

Convert ER diagram into Relational Model

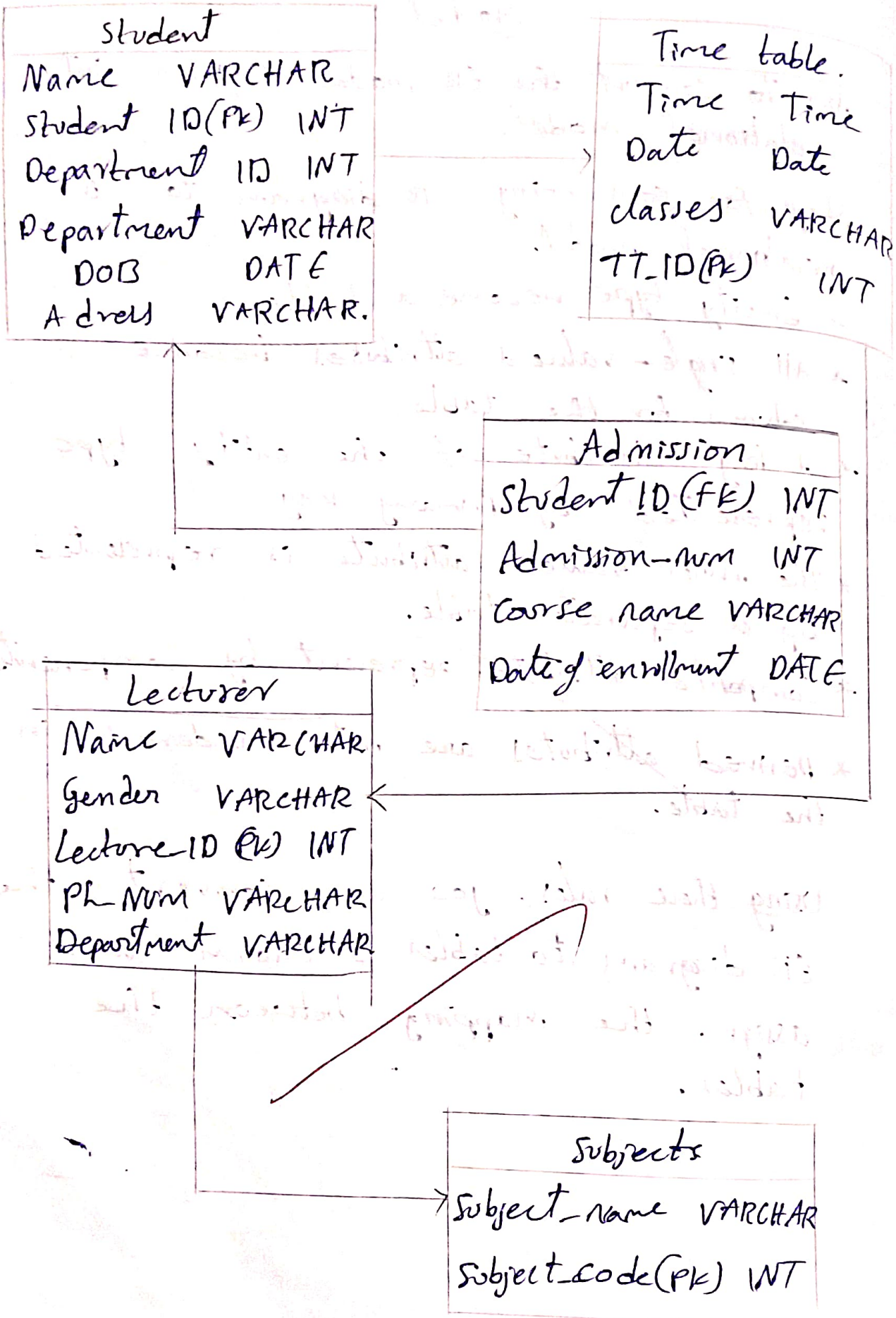
Aim: To convert the ER Model diagram into relational model.

Steps for converting ER diagram to the relational model.

* Entity type become a table.
* All single-valued attributes become a column for the table.
* A key Attribute of the entity type represented by Primary key.
* The multi valued attribute is represented by a separate table.
* Composite attribute represent by components
* Derived attributes are not considered in the table.

Using these rules, you can convert the ER diagram to tables & column and assign the mapping between the tables.

Relational model:



VEL TECH	1.B
BK No.	
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	15
TOTAL (20)	
SIGN WITH DATE	28/2/24

Thus,
Result:- The relational model for the given ER diagram was succesfully Converted.