Task no: 1 College Slot booking & Management System Date: 29/7/25

Title: Aim

Conceptual Design using ER model- College Slot booking and management system.

Tools Required: https://draw.io

Steps involved in creating ER diagram

Step 1: Problem understanding & Requirement analysis.

* Analyze real world application: College slot booking and management system.
* Understanding domain: STUDENT, DEPARTMENT, COURSE, SLOT.

Step 2: Identify major entities

* ~~Stud~~ STUDENT
* DEPARTMENT
* COURSE
* SLOT

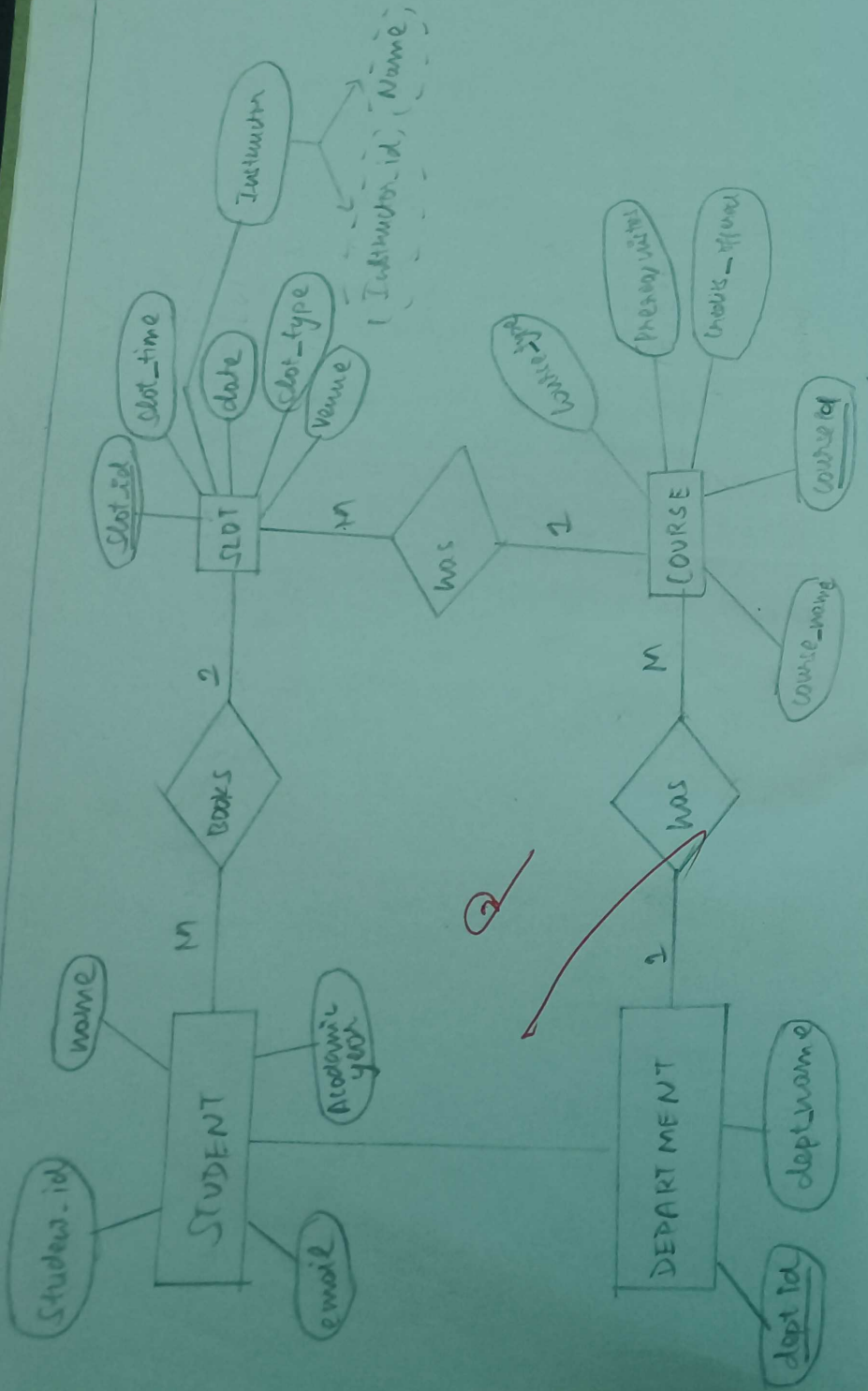
Step 3: Entity Attributes

-> STUDENT: Student_id (PK), name, enroll, academic year.

-> DEPARTMENT: dept_id (PK), dept_name.

-> COURSE: Course id (PK), course_name, credits - offered, prerequisites, course_type.

-> Slot: Slot_id (PK), slot_time, Instructor, date, slot-type, venue.



Step4:
-) A student has one department
-) one department has many courses
-) A course has many slots.
-) one or more student chooses one slot.

Step5: Draw ER Diagram using draw.io
* Open https://draw.io
* Choose Blank Diagram -> Click create
* From left panel, drag the following:
-) Use rectangles for Entities (STUDENT, DEPARTMENT)
-) Use ellipses for Attributes (Student_id, dept_id)
-) Use diamonds for relationships (has, books)
-) Connect using lines:
Solid lines for relationship connectors.
-) 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 cardinalities.

Step 6: Relationships:-
-> Student (1) —> (1) Department
-> Department (1) -> has —> (M) course
-> Course (1) — has —> (M) slots.
-) Student (M) - books —) N) slot.

Input: college slot managent System Scenario user requirements (Student slot booking, Faculty Availability, Room scheduling, Time table management)

Database design rules (Entity - relationship identification normalization considerations)

output: Entity Relationship Diagram that clearly shows:

-) All identified entities with attributes
-) All Relationships with appropriate cardinalities.
-) Foreign keys and primary keys marked appropriately.

Result: Thus, the conceptual design using ER-model - college slot booking and management system has been executed successfully.

VEL TECH	
EX NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	-
TOTAL (20)	15
IGN WITH DATE	22/7/24

Result: This task helped us to understand the importance of conceptual design in database systems. Using draw.io, we were able to visually model a real-time 'college slot booking and management system' into an ER Diagram.

Result: This task help us to understand the conceptual design using ER model - college slot booking and management system.

Task 1.1 To convert ER diagram into relation table Date: 29/7/25

Aim: To draw ER diagram for college slot management database

Task 1.2: • Steps for converting ER diagram for table

• Entity type becomes a table

• All single-valued attribute becomes column for table.

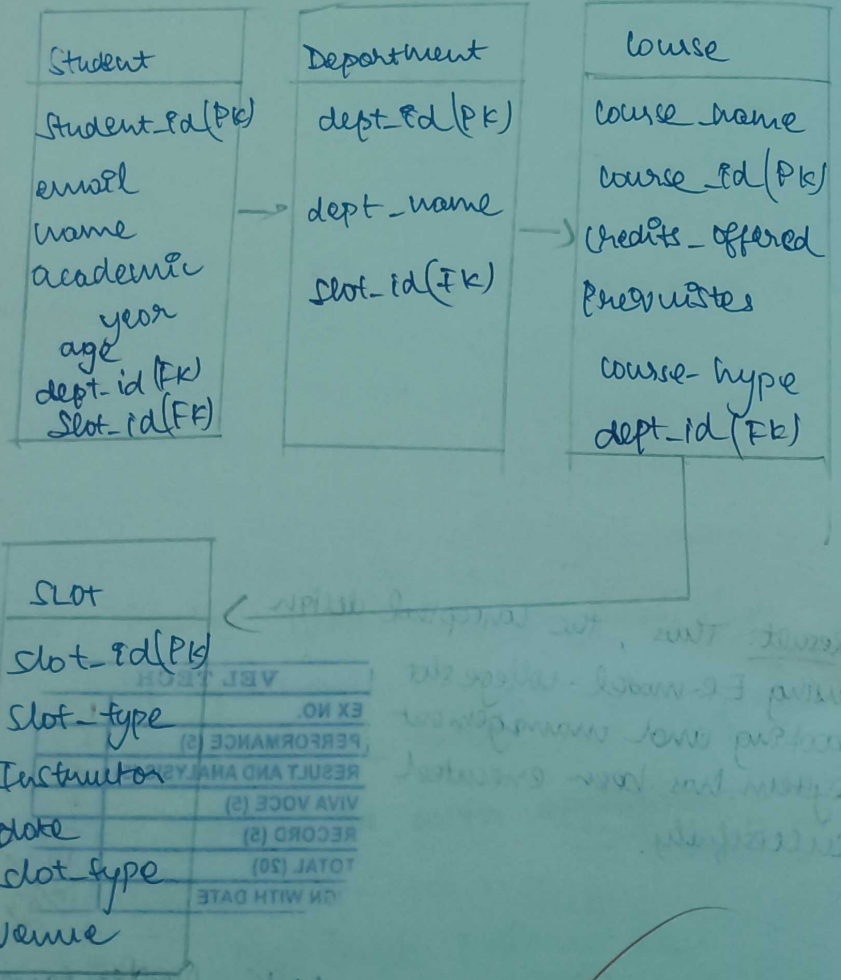
• A key attribute of entity type represented by primary key.

• The multivalued attribute is represented by seperate value.

• composite attribute represented by components

• Derived attributes one not considered in table.

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



Result: Thus, the ER diagram for college slot management database was executed successfully.

VEL TECH	
EX NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	15
SIGN WITH DATE	

22/7/25

Result:

Hence, the relationship model of college slot booking & management system using ER model was completed.