PES UNIVERSITY
ELECTRONIC CITY CAMPUS

(Established under Karnataka Act No. 16 of 2013)
100 Feet Ring Road, BSK III Stage, Bengaluru-560 085
Department of Computer Science and Engineering
Session: Aug – Dec, 2021
SEMESTER – 5

Database Management System(UE19CS301)

Assignment - 1

Team Details

Team Number-5

	NAME	SRN
1	Prachi Sengar	PES2UG19CS285
2	Raeesa Tanseen	PES2UG19CS310
3	Ria Singh	PES2UG19CS326

Problem Statement

Our aim is to design a management software and build a relational database for efficiently organizing, storing, managing, and using the data kept by a placement cell with details about students, colleges, and companies in order to make the placement process hassle-free.

Project Description

A placement cell is designing a database of the students from different colleges placed in various companies. There are 8 tables namely; Student, Company, College, Department, Faculty, Internship, Placement Offer containing the information regarding the colleges, companies, and the students. Through this project, we would like to conclude how many students are placed from which college in which company more clearly by viewing the given tables via database modeling and writing respective queries to find the details for the same.

The student relation holds student details. Each student enrolls in a college and pursues one or more degrees which are offered by different departments. College, Degree, and Department information is stored in those respective relations. Faculty details are stored in the Faculty relation where each faculty belongs to one department and may supervise the internships pursued by some students in a company. Some Faculty may also be assigned the role of the placement officers to connect the students with a company for jobs. The company details are in the company relation. Students have total participation in a college and degree while faculty has total participation in teaching in a department. Internship and Placement Offer relations are weak entity types and participate in identifying relationship types with other relations.

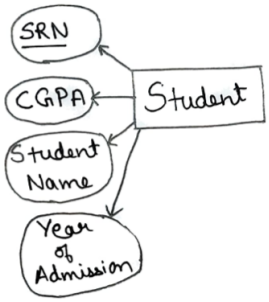
Entities Used

Student: Has attributes SRN (key attribute), CGPA, student name, year of admission
Foreign key: Degree(Degree ID) and College(College ID)
College: Has attributes College ID (key attribute), Name, Address
Foreign key: Student(SRN)
Degree: Has attributes Degree ID (key attribute), Degree Name (composite key- Specialization)
Foreign key: Department(Department ID) and Student(SRN)
Department: Has attributes Department ID (key attribute), Department name
Foreign key: Degree(Degree ID) and Faculty(Faculty ID)
Faculty: Has attributes Faculty ID (key attribute), Faculty Name
Foreign key: Department(Department ID)
Company: Has attributes Company Name, Company ID (key attribute), No. of vacancies
Placement offer (Weak Entity): Has attributes CTC, Job post
Foreign key: Student(SRN) and Faculty(Faculty ID) and Company(Company ID)
Internship (Weak Entity): Has attribute Project (multi-valued attribute)
Foreign key: Student(SRN) and Faculty(Faculty ID) and Company(Company ID)

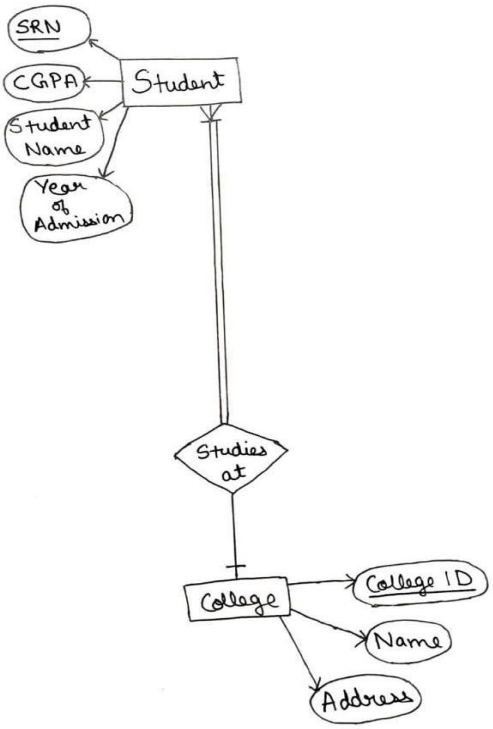
E-R Diagram

Handwritten

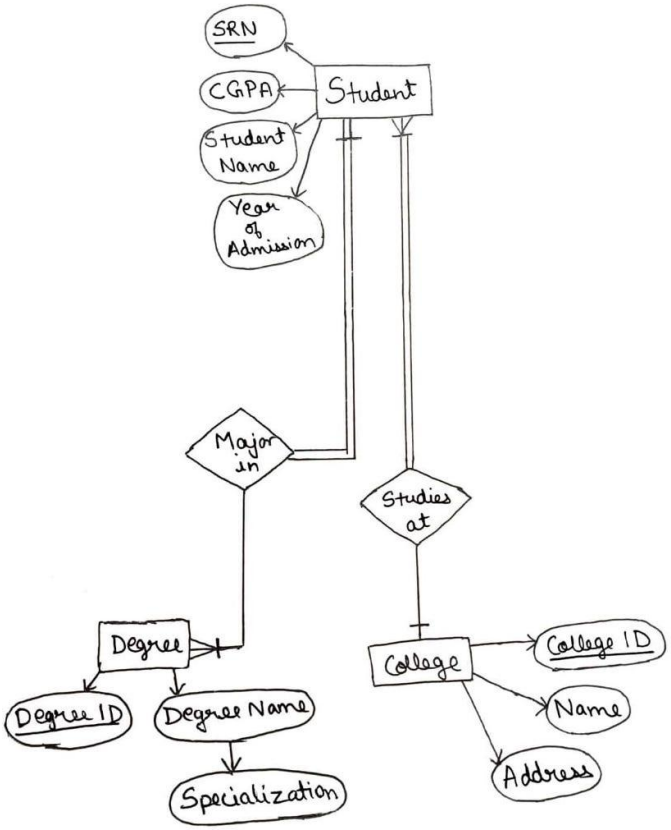
STEP 1:



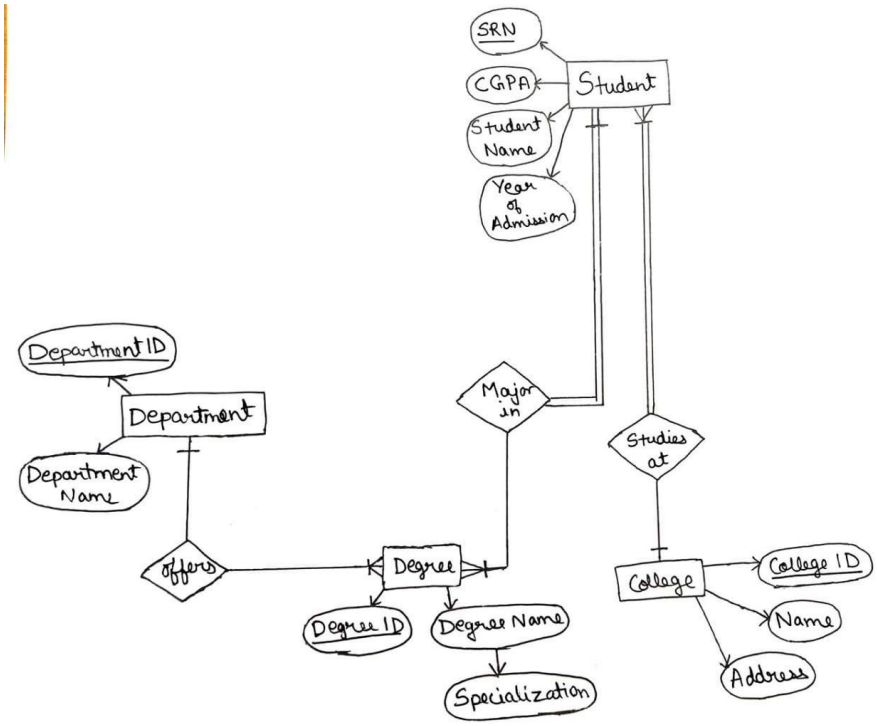
STEP 2:


SRN
CGPA
Student
Student Name
Year of Admission
Studies at
College
College ID
Name
Address

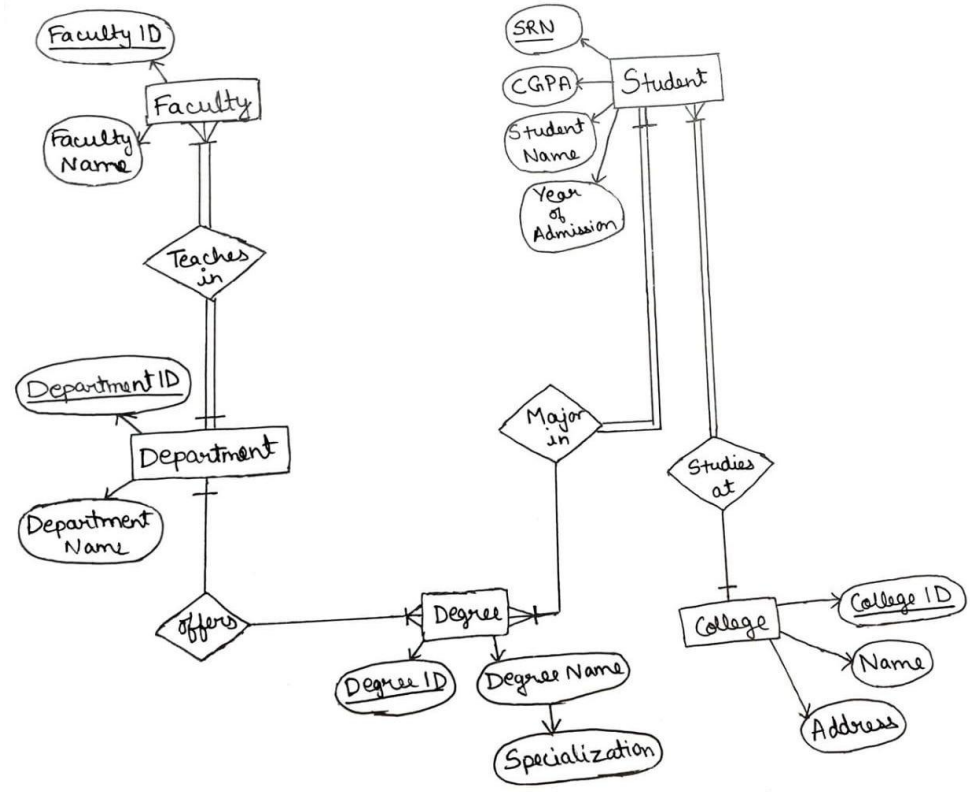
STEP 3:


SRN
CGPA
Student
Student Name
Year of Admission
Major in
Studies at
Degree
College
College ID
Name
Address
Degree ID
Degree Name
Specialization

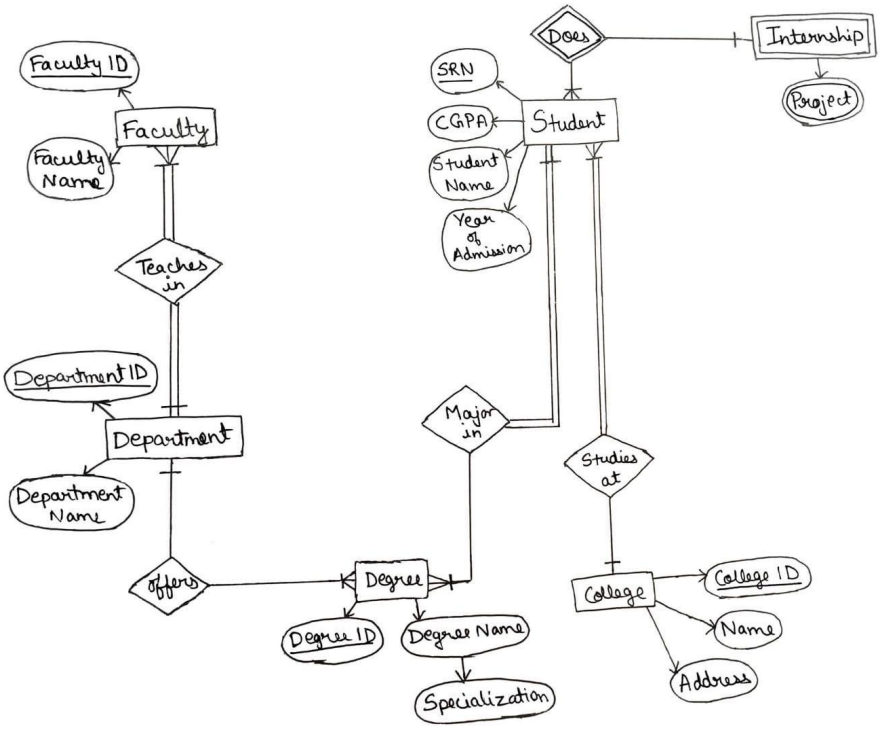
STEP 4:


SRN
CGPA
Student
Student Name
Year of Admission
Department ID
Department
Department Name
Major in
Studies at
offers
Degree
College
College ID
Name
Address
Degree ID
Degree Name
Specialization

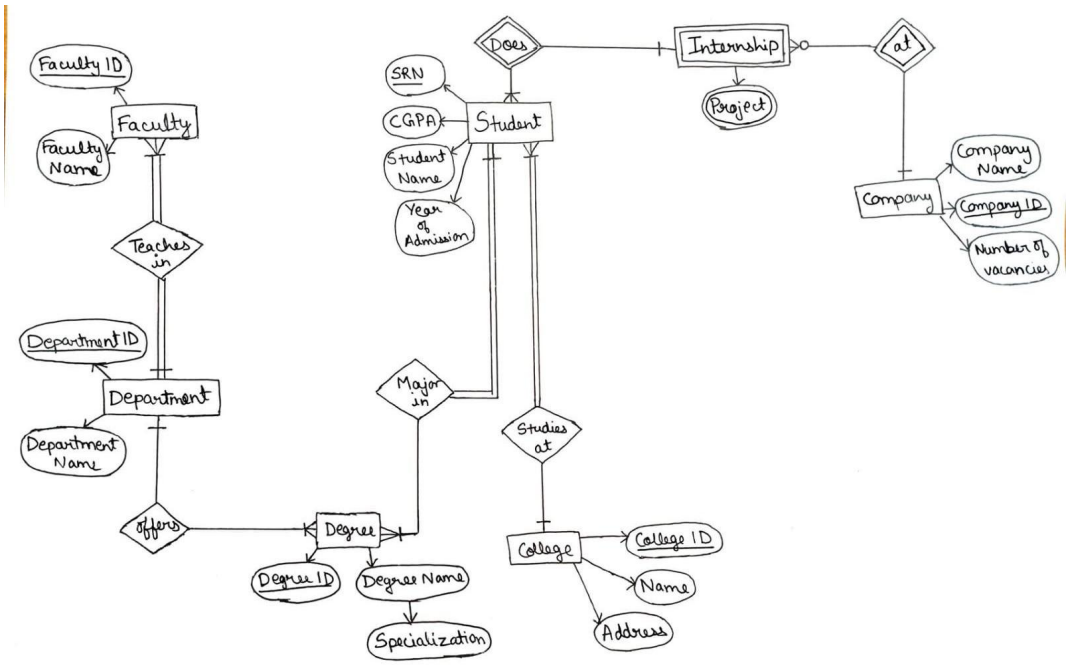
STEP 5:


Faculty ID
Faculty
Faculty Name
Teaches in
SRN
CGPA
Student
Student Name
Year of Admission
Department ID
Department
Department Name
Major in
Studies at
offers
Degree
College
College ID
Name
Address
Degree ID
Degree Name
Specialization

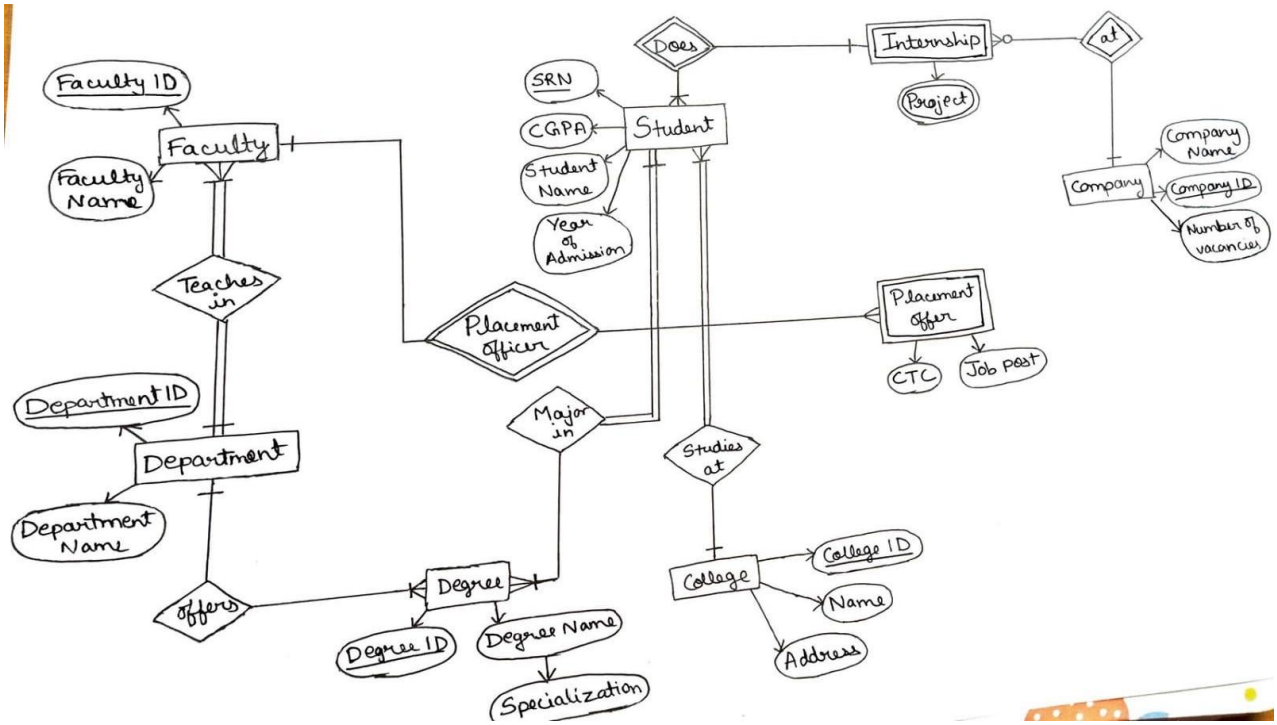
STEP 6:


Faculty ID
Faculty
Faculty Name
Teaches in
Department ID
Department
Department Name
offers
Degree
Degree ID
Degree Name
Specialization
Major in
Does
Internship
Project
SRN
CGPA
Student
Student Name
Year of Admission
Studies at
College
College ID
Name
Address

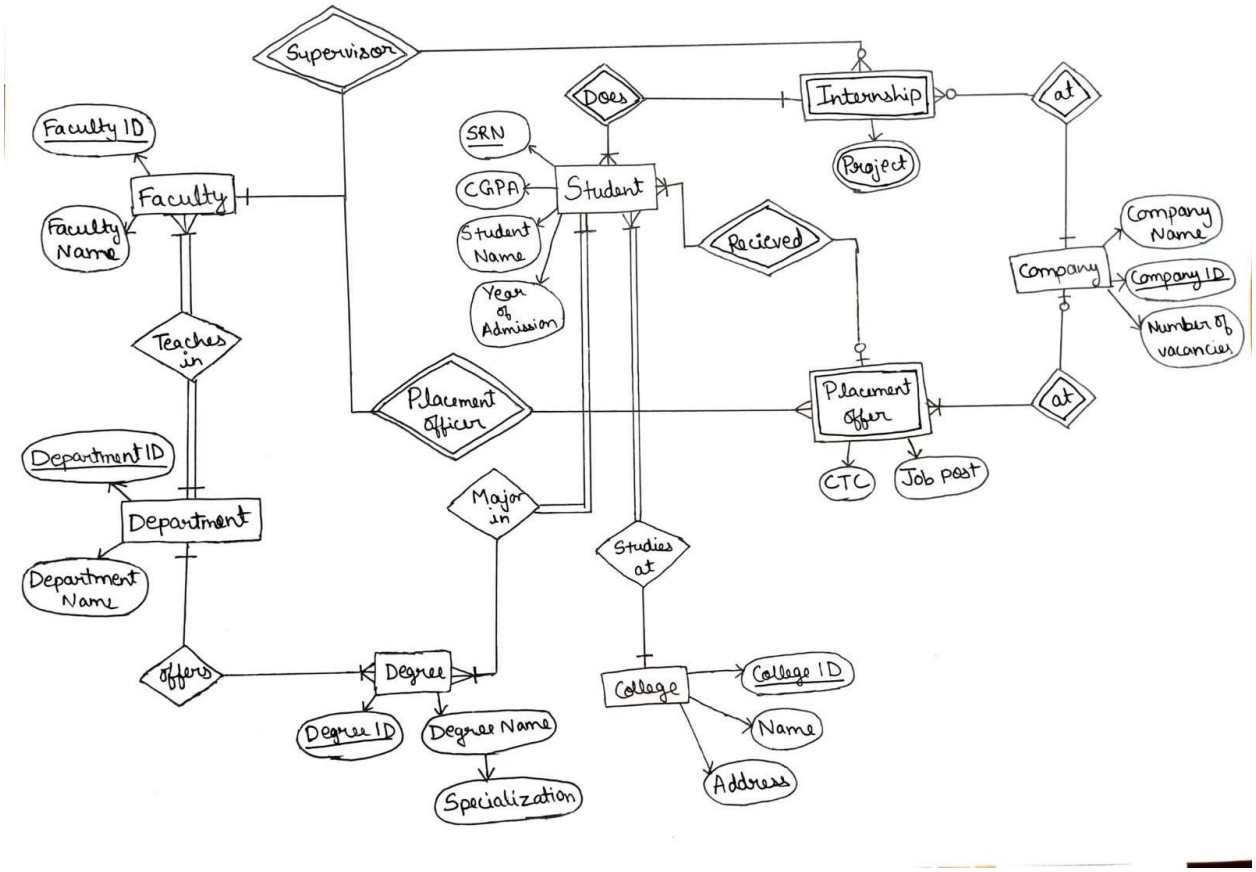
STEP 7:


Faculty ID
Faculty
Faculty Name
Teaches in
Department ID
Department
Department Name
offers
Degree
Degree ID
Degree Name
Specialization
Major in
Does
Internship
Project
at
SRN
CGPA
Student
Student Name
Year of Admission
Studies at
College
College ID
Name
Address
Company
Company Name
Company ID
Number of vacancies

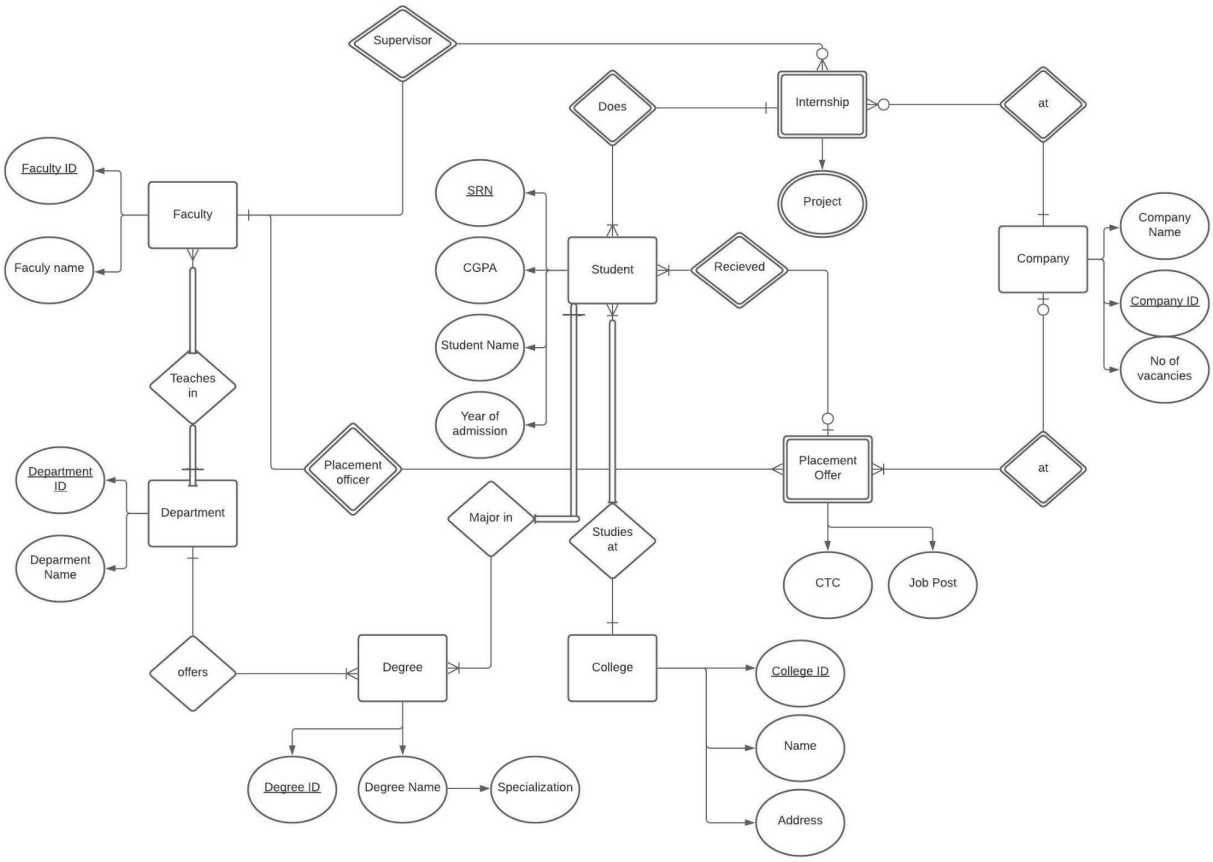
STEP 8:



FINAL ER HANDWRITTEN DIAGRAM:



Soft Copy



E-R Tool Used

Lucidchart

Lucidchart is a web-based proprietary platform that allows users to collaborate on drawing, revising, and sharing charts and diagrams. An entity-relationship diagram tool like Lucidchart helps you conceptualize your database design before you build it, including the overall structure and the ways different types of data interact, if at all. All of the ER diagram symbols shown below are found in the UML Entity Relationship and Entity Relationship shape library of Lucidchart. Drag and drop standard ERD shapes and symbols onto the canvas. Differentiate relationships, entities, and their attributes. Include tables, fields, and primary or foreign keys, then connect each entity with specific crow's foot notations to indicate the cardinality and ordinality of each entity.

As our team uses macOS, it was difficult to find a free and student-friendly ER chart visualizer, thus we found LucidDraw as it is a free online tool and no installation is necessary. It is a perfect

alternative to Visio for your Mac OS X. It's affordable, easy to use, and offers amazing accessibility with cloud-based collaboration.

REFERENCE LINKS: https://lucid.app/
https://www.lucidchart.com/

Contribution

We all have discussed each and every detail of our project and came to an approach contributing equally.

- **Prachi Sengar:** E-R handwritten diagrams, E-R soft copy
- **Raeesa Tanseen:** E-R handwritten diagrams, Report writing
- **Ria Singh:** Report writing, E-R soft copy