

## Module 3

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### **Step 3.1: Make a list of all entities and their associated attributes.**

#### Entities and Their Attributes

##### **Student:**

- StudentID (Primary key)
- First Name
- Last Name
- Address
- Sex
- Contact No.
- Email

##### **Course:**

- CourseName
- Course ID(Primary Key)
- InstructorID(Foreign Key)
- studentID(Foreign Key)
- Start Date
- End Date
- Duration
- Level

##### **Vehicle:**

- VehicleID(Primary Key)

- Vehicle Make
- Vehicle Type
- Model
- Year
- License Plate Number

**Vehicle Maintenance:**

- Vehicle Type
- VehicleID
- Date
- Service Type
- Service Provider
- Service Cost
- Next Schedule Maintenance

**Employee:**

- EmployeeID(primary key)
- firstName
- LastName
- contact information
- Address
- Position
- DOB(date of birth)
- gender

**Instructor:**

- Instructor ID(primary key)
- First Name
- Last Name
- Vehicle assigned
- Vehicle ID
- CourseName
- Course ID
- Availability
- Qualifications
- Specialities

**Office:**

- Office ID
- Location
- No. of Staff
- Department

## **Payment**

- Payment ID
- Name
- Date
- Email
- Amount
- Payment Method

## **Step 3.2: Make a list of relationships to be represented, and any descriptive attributes for Them.**

**Office to employee(1:M):** one office has many employee. so , the relationship between them is one to many.

**Office to Manager(1:1) :** each office has one manager. So the relationship between them is one to one .

**Office to Instructor(1:M) :** An office has many instructor. So the relationship between them is one to many.

**Office to vehicle(1:M):** An office has many vehicle. So, the relation between them is one to many.

**Instructor to Vehicles(1:1) :**each instructor is assigned to one vehicle. So, the relationship between them is One-to-One.

**Instructor to Course(1:M) :** one instructor can teach many courses. So the relationship between them is one to many.

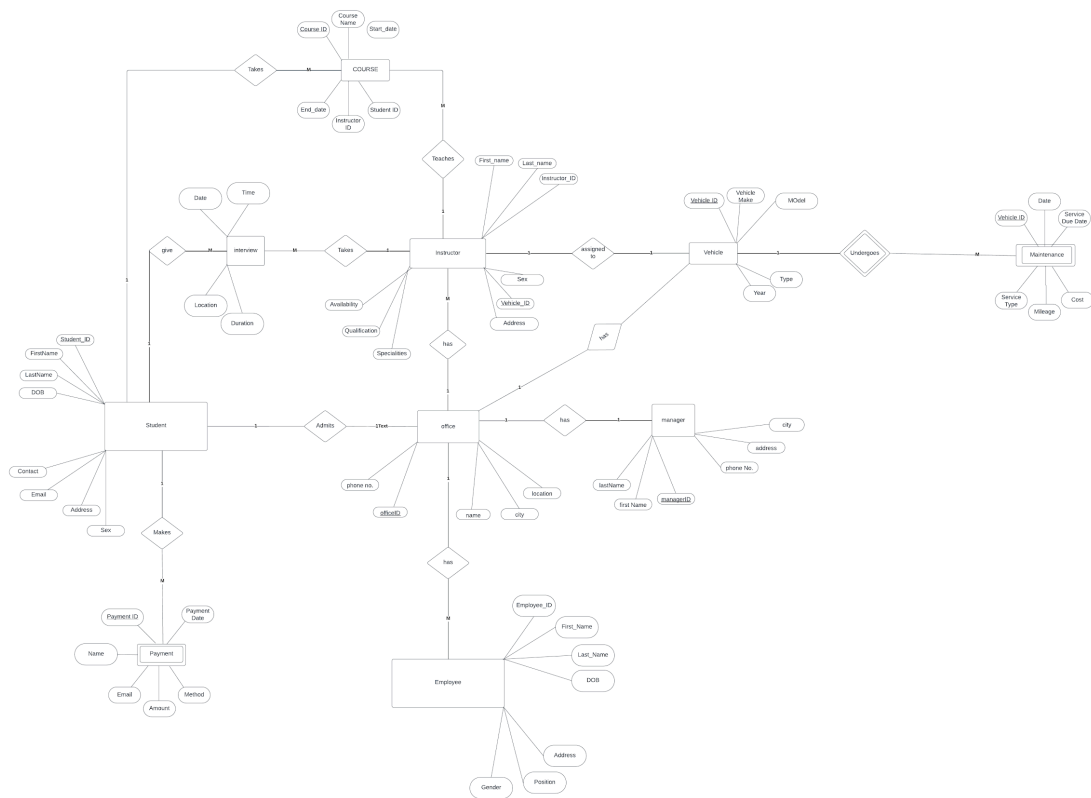
**Student to payment(1:M):** one studnet can make many payment. So the relationship between them is one to many.

**Studnet to office(1:1) :** one studnet is assigned to one office. So the relationship between them is one to one.

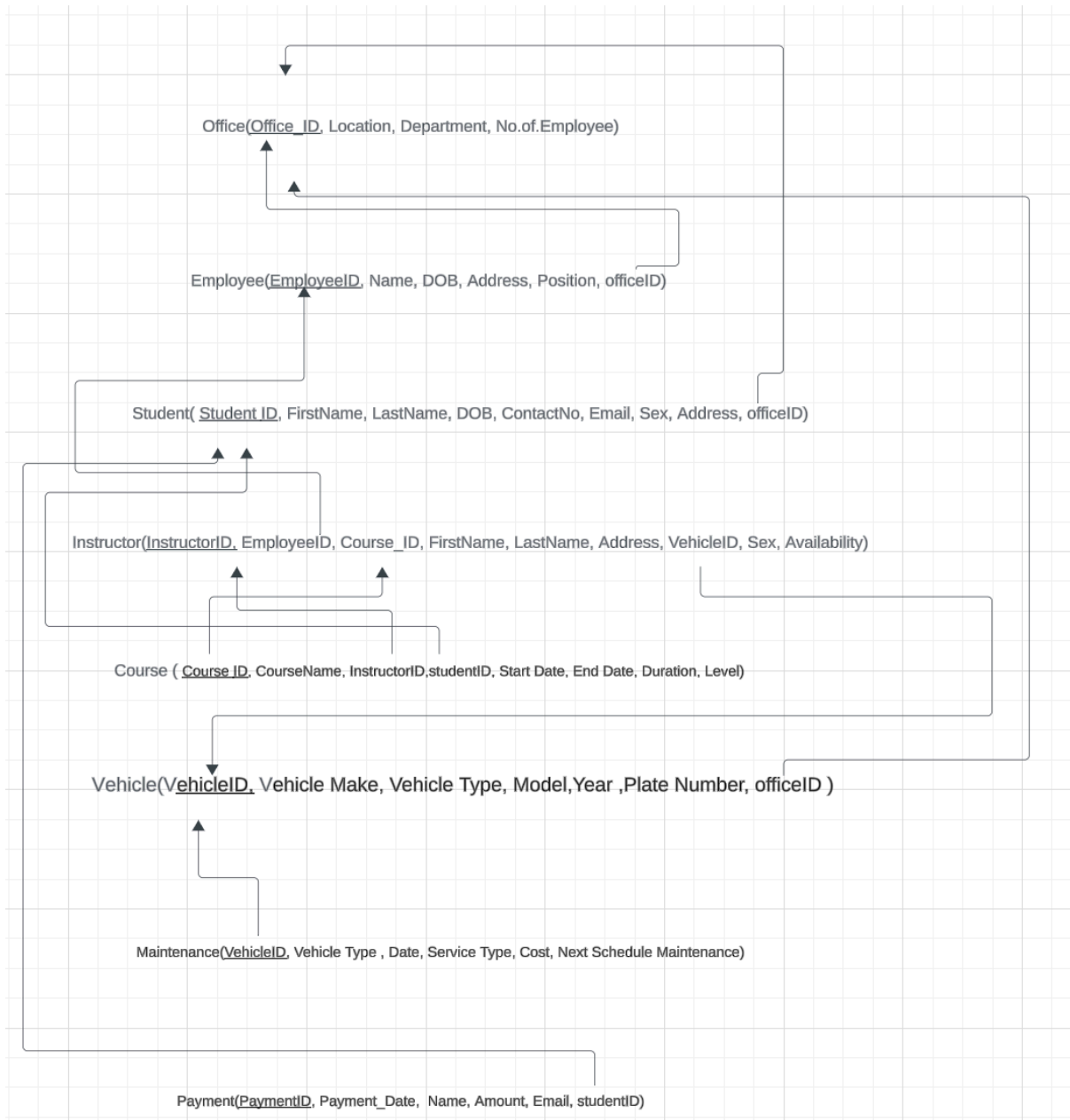
**Vehicle to maintenance(1:M):** one vehicle can undergo multiple maintenance. So the relationship between them is one to many.

## ERD DIAGRAM:

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Schema:



## Updated Data Dictionary

Field Name	Data Type	Size	Constraints	Description
Address	VARCHAR			Student's residential address.
Amount	DECIMAL	10,2	NOT NULL	Amount of the payment.
CourseID	INT	N/A	PRIMARY KEY	Unique identifier for each

				course.
CourseName	VARCHAR	255	NOT NULL	Name of the course.
Date	DATE	N/A	NOT NULL	Date of the payment.
Date	DATE	N/A	NOT NULL	Date of the maintenance service.
Date of Birth	DATE	N/A		Student's date of birth.
Department	VARCHAR	50		Department where each employee work
Description	TEXT	500		Brief description of the course.
Duration	INT			Duration of the course in hours.
End date	DATE		NOT NULL	Course completion date of student
Email	VARCHAR	100		Student's email address.
Email	VARCHAR	255		Instructor's email address.
Employee ID	INT	N/A		Unique identifier for each employee
Feedback score	Dec	10,6		Student rate their instructor on feedback score
First Name	VARCHAR	30	NOT NULL	Student's full name.
First Name	VARCHAR	30	NOT NULL	Instructor's full name.
InstructorID	INT	N/A	PRIMARY KEY	Unique identifier for each instructor.
Last Name	VARCHAR	30		
Last Name	VARCHAR	30		Instructor's last name.
Lesson completed	INT	10		Student completed their lesson till now
Lesson type	VARCHAR	50		Type of lesson student choose
Lesson fee	INT	10		Cost of each lesson
Level	VARCHAR	50		Difficulty level of the course.
Licence plate number	VARCHAR	20	NOT NULL	One of the unique identification of the vechile
MaintenanceID	INT	N/A	PRIMARY KEY	Unique identifier for each maintenance record.
Maintenance date	DATE			Date when maintenance is done
Make	VARCHAR	255	NOT NULL	Vehicle make.
ManagerID	INT	30	NOT NULL	Uniquely identifies manager
Method	VARCHAR	255	NOT NULL	Payment method (e.g., Cash,

				Credit Card).
Mileage	INT		NOT NULL	Vehicle mileage at the time of service.
Model	VARCHAR	255	NOT NULL	Vehicle model.
Office BranchId	INT	30	PRIMARY KEY	Uniquely identifies offices
Pass rate	DECIMAL	(5,2)		Passing rate of an instructor
PaymentID	INT	N/A	PRIMARY KEY	Unique identifier for each payment transaction.
Payment date	DATE			Date where payment is done by the student
Payment method	VARCHAR	50		Method used by student to pay for their course
Payment status	VARCHAR	20		Payment status of studnet (paid or unpaid)
PhoneNumber	INT	15		Student's contact number.
PhoneNumber	INT	15		Instructor's contact number.
Position	VARCHAR	50		Position for employee
Qualifications	VARCHAR	255		Instructor's qualifications.
Registration No.	VARCHAR	255		Vehicle registration number.
Service cost	INT	15		Cost of maintenance
Service Due	Date	N/A	NOT NULL	Next Service due date
Service provider	VARCHAR	20		Service provide by some company for maintenance of vehicle
Sex	VARCHAR	30	NOT NULL	Employee, instructor, and student Gender
Specialties	VARCHAR	255		Areas of special expertise.
Start date	DATE		NOT NULL	Enrolled Date of student
Status	VARCHAR	50	NOT NULL	Status of the payment (e.g., Pending, Completed).
StudentID	INT		PRIMARY KEY	Unique identifier for each student.
StudentID	INT	N/A	FOREIGN KEY	Identifies the student making the payment.
Vehicle no.	INT	N/A	PRIMARY KEY	Unique identifier for each vehicle.
Vehicle no.	INT	N/A	FOREIGN KEY	Identifies the vehicle serviced.
Vehicle type				Type of vehicle used
Year	YEAR	N/A		Year of manufacture.

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