Short explanation of DBMS project:

In this project , we have created 6 tables: customers , driver, request_ride, vehicle, trip and payment in which payment is a weak entity .
We have put constraints like primary key constraint, foreign key constraint and have also checked Phone_Number should be equal to 10 digits.

Table customer:
 CREATE TABLE Customer (
 Customer_ID INT NOT NULL AUTO_INCREMENT,
 Name VARCHAR(20) NOT NULL,
 Email VARCHAR(30) NOT NULL,
  DOB VARCHAR(10) NOT NULL,
        Phn_Number VARCHAR(10) NOT NULL,
   Credit_Score float NOT NULL,
 primary key (Customer_ID),
  unique index unique_customer_ID (Customer_ID ASC) visible,
  unique index unique_email (Email ASC) visible,
  unique index unique_phn_number (Phn_Number ASC) visible);

- Since the email , phone number and customer_id are unique here we have used unique indexing .
- The following attributes cannot be null such as name email, dob etc
- Primary key customer_id

Table Driver:
create table Driver(
Driver_ID int NOT NULL auto_increment,
    Email_ID varchar(30) NOT NULL,
    Name varchar(20) NOT NULL,
    Phone_Number varchar(10) NOT NULL,
    Gender char(1),
    Address varchar(40),
    Avg_Rating float NOT NULL,
    Driver_Status char(1),
    primary key(Driver_ID),
    Check (Phone_Number =10),
    unique index unique_driver_id (Driver_ID ASC) visible,
    unique index unique_email (Email_ID ASC) visible,
    unique index unique_phn_number (Phone_Number ASC) visible);

- Since the email , phone number and driver_id are unique here we have used unique indexing .

- The following attributes cannot be null such as name email, dob, phn number etc
- Primary key Driver_id

Table vehicle

CREATE TABLE Vehicle (
 Number_Plate VARCHAR(15) NOT NULL,
 Driver_ID INT NOT NULL,
 Seats_accomadation INT NOT NULL,
 Fuel VARCHAR(10) NOT NULL,
 Color VARCHAR(45) NOT NULL,
 Maintainance_state char(1),
 primary key(Number_Plate),
 foreign key(Driver_ID) references driver(Driver_ID));

- Primary key Number_Plate
- Foreign key Driver_ID
- The following attributes cannot be null like seat_accomadation,driver_id, fuel,color etc

Table Payment

CREATE TABLE Payment (
 Reference_ID varchar(20) NOT NULL,
 T_ID INT NOT NULL,
 Customer_ID INT NOT NULL,
 Amount DECIMAL NOT NULL,
 PRIMARY KEY (T_ID,Reference_ID,Customer_ID));

- Primary key Reference_ID, T_ID , and customer_ID
- The following attributes cannot be null like Reference_ID, etc
- Here Payment is a weak entity key so, there are 3 primary keys.

Table Ride_Request

CREATE TABLE Ride_Request (
 R_ID INT NOT NULL AUTO_INCREMENT,
        date DATE,
   Driver_ID INT NOT NULL,
   Customer_ID INT NOT NULL,
   Pickup_Time time,
   foreign key(Driver_ID) references driver(Driver_ID),
   foreign key (Customer_ID) references customer(Customer_ID),
 PRIMARY KEY (R_ID),

- Primary key R_ID
- Foreign key Driver_ID Customer_ID

TABLE TRIP

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CREATE TABLE Trip (
        T_ID INT NOT NULL AUTO_INCREMENT,
        Driver_ID INT NOT NULL,
        R_ID INT NOT NULL,
        Customer_ID INT NOT NULL,
        Pickup_x float NOT NULL,
    Pickup_y float NOT NULL,
    Destination_x float NOT NULL,
    Destination_y float NOT NULL,
    Fare_Price float NOT NULL,
    time_taken time,
        primary key (T_ID),
        foreign key(Driver_ID) references driver(Driver_ID),
    foreign key(R_ID) references ride_request(R_ID),
    foreign key (Customer_ID) references customer(Customer_ID));
```

- Primary key T_ID
- Foreign key R_ID, Driver_ID, Customer_ID
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