HR_System

Part A :

a-

- HR application for a small accounting firm
- The firm has many departments .
- Each department has from 5 to 20 employees .
- An employee mybe allocated one car .
- The company would like to ensure timely maintinance of vehicle
  - Vheicle next maintinance is within 6 month of current date.
- Vheicle details [make , model , next_maintinance_date].
- Each employee has a position [Manager , Accountant , Adminstrator , Clerk].
- Each position has its allowances .
  - The manager have [fuel_allowance , house_allowance , social_allowance , and managers_allowance].
  - The Adminstrator have [house_allowance , social_allowance].
  - The Clerk have [social_allowance , uniform_allowance].
- Each department is assigned to one or more projects .
- Project can be assigned to one or more department.
- Each employee will have a grade
- The employee salary should be between the grade range [EX: Grade A – salary between 30000-50000].

b-

- The employee is an entity and its attributes [Emp-ID,first name , last name , Date of Bith , phone , salary , position , Dept-ID].
- The Department is an entity and its attributes [Dept-ID,name , total number of employees ,description,Emp-ID].
- The car is an entity and its attributes [make , model , next_maintinance_date].
- The allowances is an entity and its attributes [ID , fuel_allowance , house_allowance , social_allowance , and managers_allowance ,uniform_allowance , Emp-ID].
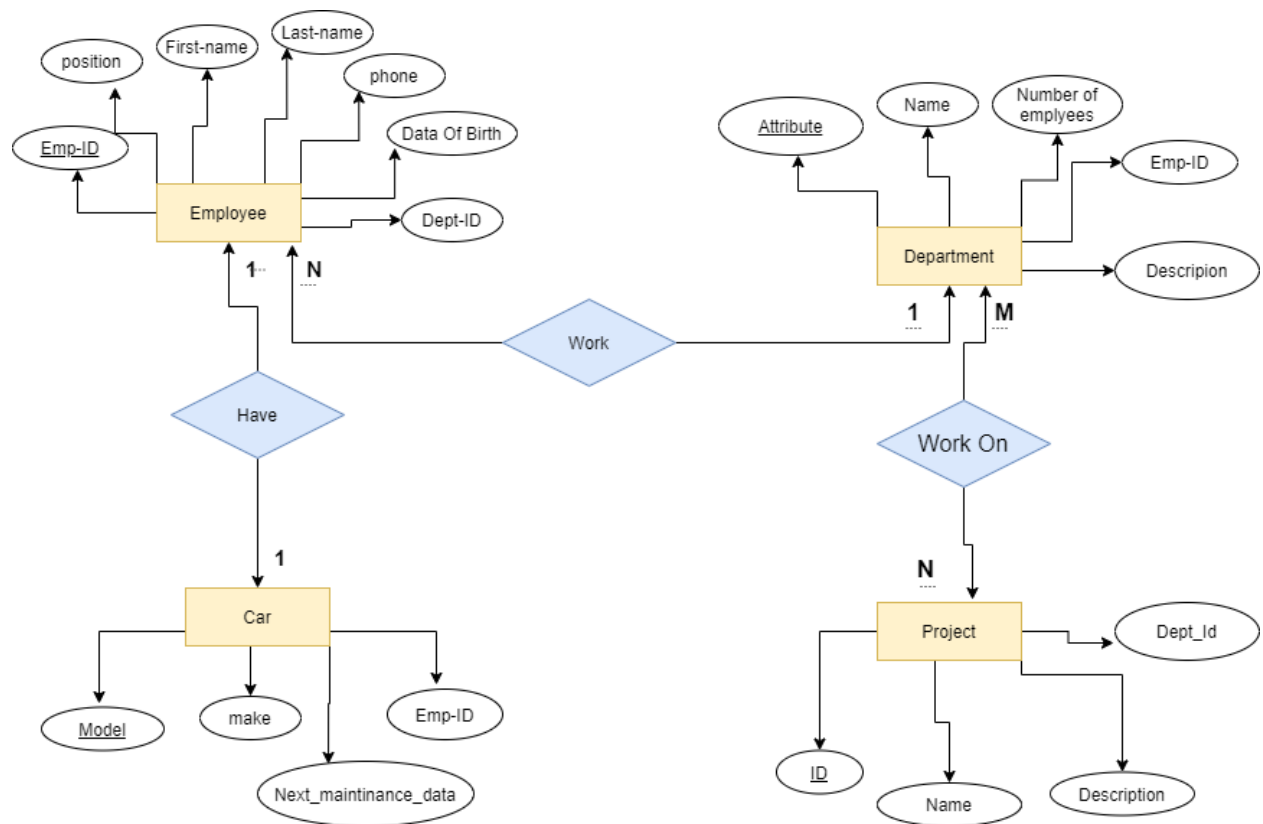

c-

- In the Employee entity the primary key is Emp-ID , and the foregin key is Dept-ID.
- In the Department entity the primary key is Dept-ID, and the foregin key is Emp-ID.
- In the car entity the primary key is model, and the foregin key is Emp-ID.
- In the allowances entity the primary key is ID, and the foregin key is Emp-ID.
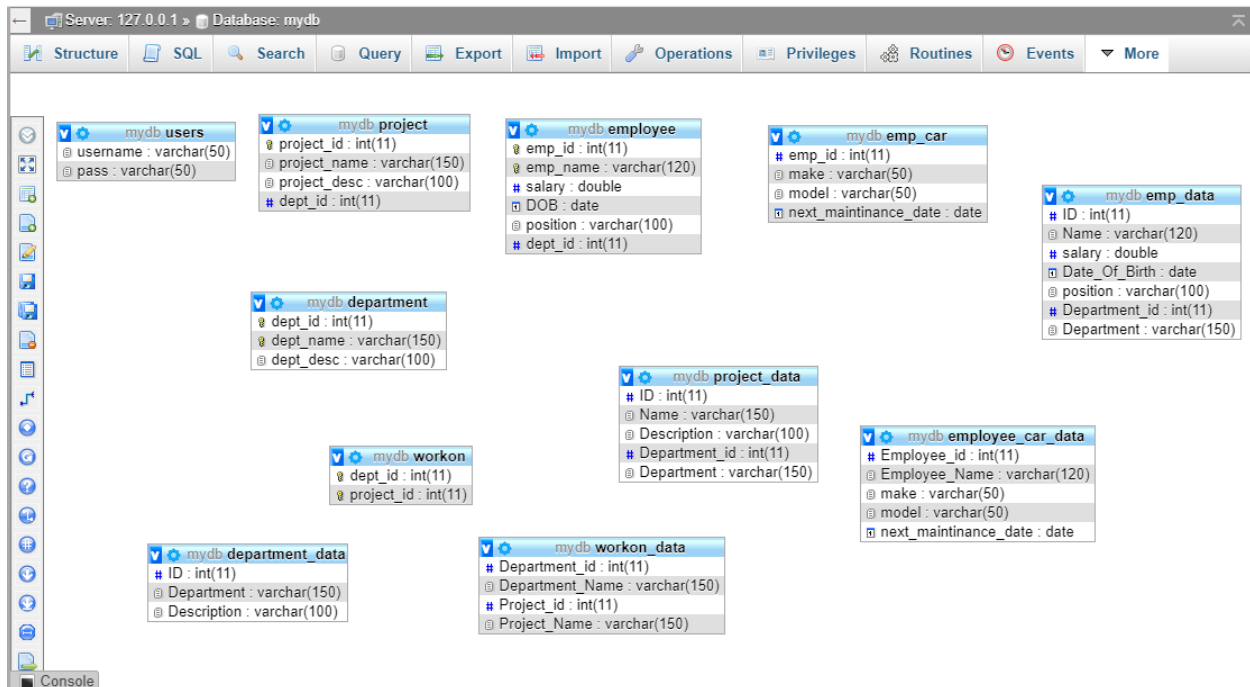
d-

- The relationship between the Employee and the Department N:1
- The relationship between the Employee and the Car 1:1
- The relationship between the Employee and the Allowances M:N

Part B :

After Resolving The Relations :

Part C :

CREATE DATABASE mydb DEFAULT CHARACTER SET UTF8 DEFAULT COLLATE UTF8_GENERAL_CI;

USE mydb

CREATE TABLE users (

 username VARCHAR(150) UNIQUE,

pass VARCHAR(100)

);

CREATE TABLE Department (

 dept_id INT PRIMARY KEY,

 dept_name VARCHAR(150) UNIQUE,

 dept_desc VARCHAR(100)

);

CREATE TABLE Project(

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    project_id INT PRIMARY KEY,

    project_name VARCHAR (150),

    project_desc VARCHAR(100),

    dept_id INT,

    FOREIGN KEY(dept_id) REFERENCES Department(dept_id)

);

CREATE TABLE Employee(

    emp_id INT PRIMARY KEY,

    emp_name VARCHAR(120) UNIQUE,

    salary DOUBLE,

    DOB DATE,

    position VARCHAR(100),

    dept_id INT,

    FOREIGN KEY(dept_id) REFERENCES Department(dept_id)

);

CREATE TABLE Emp_car(

    emp_id INT,

    make VARCHAR(50),

    model VARCHAR(50),

    next_maintinance_date DATE,

    FOREIGN KEY(emp_id) REFERENCES Employee(emp_id)

);


CREATE TABLE workOn(

    dept_id INT,

    project_id INT,

    PRIMARY KEY(dept_id,project_id),

    FOREIGN KEY(dept_id) REFERENCES Department(dept_id),

    FOREIGN KEY(project_id) REFERENCES Project(project_id)
```

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);
```

```
CREATE VIEW Emp_Data
AS
SELECT emp_id AS 'ID',
       emp_name AS 'Name',
       salary,
       DOB AS 'Date_Of_Birth',
       position,
       Employee.dept_id AS 'Department_id',
       dept_name  AS 'Department'
FROM Employee,Department WHERE Employee.dept_id = Department.dept_id;
```

```
CREATE VIEW Department_Data
AS
SELECT dept_id AS 'ID',
       dept_name AS 'Department',
       dept_desc AS 'Description'
FROM Department;
```

```
CREATE VIEW Project_Data
AS
SELECT project_id AS 'ID',
       project_name AS 'Name',
       project_desc AS 'Description',
       project.dept_id AS 'Department_id',
        dept_name AS 'Department'
FROM project , Department WHERE
project.dept_id = Department.dept_id;
```

```
CREATE VIEW Employee_Car_Data
AS
SELECT Employee.emp_id AS 'Employee_id',
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        emp_name AS 'Employee_Name',
        make,
        model,
        next_maintinance_date
FROM Employee , emp_car WHERE Employee.emp_id = emp_car.emp_id;
```

```
CREATE VIEW workOn_Data
AS
SELECT workon.dept_id AS 'Department_id',
       dept_name AS 'Department_Name',
       workon.project_id AS 'Project_id',
       project_name AS 'Project_Name'
FROM workon , Department , project
WHERE workon.dept_id = Employee.dept_id
AND   workon.project_id = project.project_id;
```

-INSERT INTO users VALUES ("a","a");

- INSERT INTO Employees (firstname , lastname , phone , DOB, position ,dept , salary) VALUES ("mohamed","ahmed ","0122365","25/2/1990","manager","sales","40000");

- INSERT INTO Employees (firstname , lastname , phone , DOB, position ,dept , salary) VALUES ("taha","sayed ","946515","23/8/1994","adminstrator","sales","30000");

- INSERT INTO Employees (firstname , lastname , phone , DOB, position ,dept , salary) VALUES ("mostafa","mohamed ","96554559","1/11/1998","accountant","sales","35000");

- INSERT INTO Employees (firstname , lastname , phone , DOB, position ,dept , salary) VALUES ("ibrahim","mohsen ","42424","25/12/1984","clerk","sales","38000");

- INSERT INTO Employees (firstname , lastname , phone , DOB, position ,dept , salary) VALUES ("mohamed","ahmed ","537353537","8/3/1992","clerk","sales","45000");

- INSERT INTO Department (name , decription)VALUES ("Sales","Dpartment of sales employees ");

- INSERT INTO Department (name , decription)VALUES ("IT","Dpartment for IT employees ");

- INSERT INTO Department (name , decription)VALUES ("customer services","Dpartment of customer services employees ");

- INSERT INTO Department (name , decription)VALUES ("Technical support","Dpartment of Technical support employees ");

- INSERT INTO Department (name , decription)VALUES ("Dealing","Dpartment of Dealing employees ");

- INSERT INTO Car (model, make)VALUES ("kia20-18884","germany");

- INSERT INTO Car (model, make)VALUES ("mercedes-5225","germany");

- INSERT INTO Car (model, make)VALUES ("BMW-1125","germany");

- INSERT INTO Car (model, make)VALUES ("ferrary-8538","germany");

- INSERT INTO Car (model, make)VALUES ("DODG-4632","germany");

- INSERT INTO Project (project_id , project_name , project_desc , dept_id)VALUES (1,"project1","the description of the project ",3);

- INSERT INTO Project (project_id , project_name , project_desc , dept_id)VALUES (1," project2","the description of the project ",2);

- INSERT INTO Project (project_id , project_name , project_desc , dept_id)VALUES (1," project3","the description of the project ",1);

- INSERT INTO Project (project_id , project_name , project_desc , dept_id)VALUES (1," project4","the description of the project ",4);

- INSERT INTO Project (project_id , project_name , project_desc , dept_id)VALUES (1," project5","the description of the project ",5);