Course basic information

Code	Course Name	Credit Hours		
	Database	Lecture	Practice	Total

Research Title

(Car Rental Management system)

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System Description

The main objective of car rental system is to manage the details of car . it manages all information about car , booking . the purpose of the project is to build an application program to reduce the manual work for managing the car.

List of tables

1) Customer table

cid	fName	lName	Address

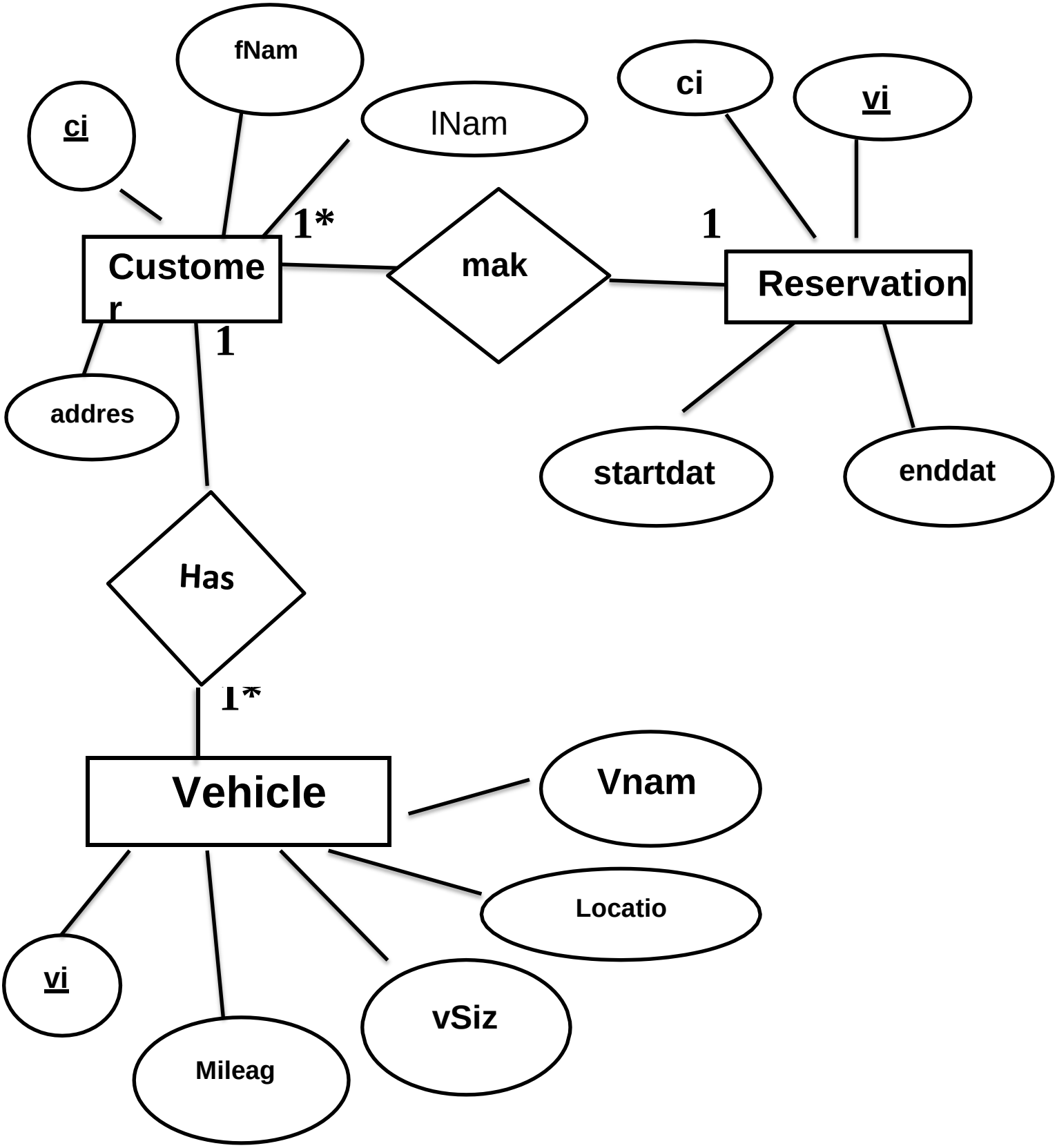
2) Vehicle table

Vid	Mileage	Location	Vsize	Vname

3) Reservation table

cid	Vid	Start_date	End_date

Entity Relationship Diagram



select statements

1. **Display records of customer table**

```
Select    *
From    customer ;
```

2. **Display records of vehicle table**

```
Select     *
From     vehicle  ;
```

3. **Display records of reservation table**

```
Select     *
From      reservation ;
```

4. **Find the first name of customers whose last name starts with ‘ S’**

```
Select        *
From         customer
Where       lName       like ‘ S %’ ;
```

5. **Find location of all vehicles**

```
Select    location
From    vehicle  ;
```

6. **List first name , last name of customers in descending order**

```
Select    fName , lName
 from    customer
order by desc ;
```

7. **find all details of reservation which start date is 2019-01-01 and end date is 2019-01-05**

```
Select   *
From    reservation
Where startdate =' 2019-01-01 ' and enddate=' 2019-01-05 '
```

8. **List vehicles size which has id V101**

```
Select    vsize
From     vehicle
Where    vid='V101'
```

9. **List first name , last name of customers who retal a car**

```
Select    fName , lName
From    customer c , reservation     r
Where   c. cid= r. cid ;
```

10. **List first name , address of customers who retal a car in 2019-02-5 to 2019-03- 1**

```
Select     fName ,  address
From     customer c , reservation  r
Where   c. cid = r. cid     and    startdate =' 2019-02-05 ' and enddate=' 2019-03-01 '
```

11. List all details of vehicles which retal in 2019-05-22 in descending order

```
Select      *
From        vehicle
Where       startdate =' 2019-05-22'
Order by    desc ;
```

12. List all vehicles which name start with ' D'

```
Select      *
From        Vehicle
Where       Vname     like ' D %' ;
```

13. List all vehicles which location is ' Sanford '

```
Select      *
From        vehicle
Where       location =' Sanford ' ;
```

14. List the count of all retals

```
Select      count (*)
From        reservation   ;
```

15. List the count of all vehicles

```
Select      count (*)
From        vehicles    ;
```

16. List vehicles which are retaled

```
Select   *
From    vehicle  v   ,  reservation   r
Where    v. vid = r. vid  ;
```

17. List all reservation in descending order

```
Select          *
From            reservation
Order  by       desc ;
```

18. List vehicles size which has id V201

```
Select   vsize
From     vehicle
```

19. Find the first name of customers named ‘ smith ‘

```
Select       fName
From         customer
Where        fname=’ smith ‘ ;
```

20. List location of car which are retaled

```
Select        location
From          vehicle v , reservation     r
Where         v. vid=r. vid ;
```

Sub Query statements

1. **List vehicles size is the most preferred**

```
Select    vSize
From    vehicle
Where mileage = ( select MAX(mileage) from vehicle) ;
```

2. List vehicles which are reserved for maximum time

```
Select   *
From    vehicle
Where   vid=
(select vid   from reservation where ROUND(( enddate-
startdate)/360)= (select Max( ROUND ( enddate-
startdate)/360) from reservation )) ;'
```

count and Group functions

1. **Find count of vehicles for each location which has at least five vehicles**

```
Select      count(vid)
from        vehicle
Group by    location
Having      count(vid) >= 5 ;
```

2. **Find count of all customers**

```
Select      count ( * )
From        customer
Group by    cid ;
```

join statements

1.

```
Select   fName , lName
From   customer  c   join  reservation   r
On       c. cid= r. cid ;
```

2.

```
Select        location
From        vehicle  v   left  join  reservation   r
On           v. vid=r. vid ;
```

insert statements

1) Insert into customer values(‘102’, ‘smith ‘ , ‘ Lone’ , ‘France’);

2) Insert into vehicle values (‘v101’ , ‘70’ , ‘compact’ , ‘automatic’ , ‘ France ‘) ;

3) Insert into reservation values (‘101’ , ‘ v102 ‘ , ‘ 2019-02-01‘, ‘ 2019-02-05) ;

4) Insert into customer values(‘105’, ‘ahmed ‘ , ‘ wahab’ , ‘Egypt’);

5) insert into vehicle values (‘v104’ , ‘80’ , ‘compact’ , ‘automatic’ , ‘ Egypt‘) ;

Update statements

1) **Update** customer
   set fName = ‘ blal ‘
   where cid=’101’ ;

2) **Update** vehicle
   set location=’Egypt’
   where vid=’v103’ ;

3) **Update** reservation
   set startdate=’2019-05-07’
   where cid=’103’;

4) **Update** customer
   set fName = ‘ ahmed‘
   where cid=’106’ ;

5) **Update** vehicle
   set location=’Russia ’
   where vid=’v106’ ;

Delete Statements

1) Delete from **customer**
where fName=’ smith ‘ ;

2) Delete from**vehicle**
Where vid=’v102’ ;

3) Delete from **reservation**
where cid =’103 ‘ ;

4) Delete from **customer**
where cid=’102’ ;

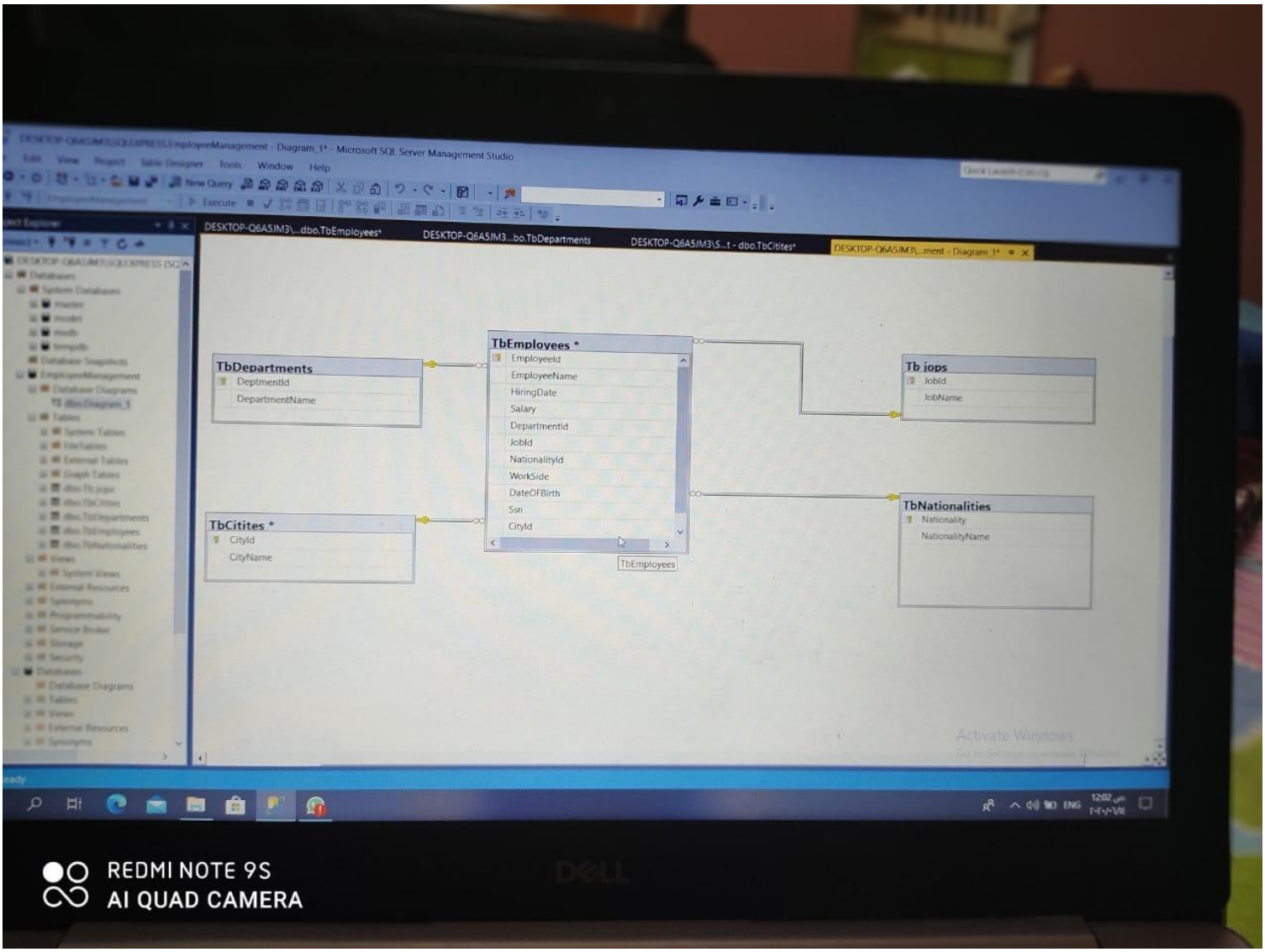
5) Delete from **vehicle**
where vid=’v106 ‘ ;

```
USE [master]
GO
/****** Object:  Database [Databases]    Script Date: 14/06/2020 12:17:25 ص ******/
CREATE DATABASE [Databases]
 CONTAINMENT = NONE
 ON  PRIMARY
```

```
( NAME = N'Databases', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL15.SQLEXPRESS\MSSQL\DATA\Databases.mdf' , SIZE = 8192KB ,
MAXSIZE = UNLIMITED, FILEGROWTH = 65536KB )
 LOG ON
( NAME = N'Databases_log', FILENAME = N'C:\Program Files\Microsoft SQL
Server\MSSQL15.SQLEXPRESS\MSSQL\DATA\Databases_log.ldf' , SIZE =
8192KB , MAXSIZE = 2048GB , FILEGROWTH = 65536KB )
 WITH CATALOG_COLLATION = DATABASE_DEFAULT
GO
ALTER DATABASE [Databases] SET COMPATIBILITY_LEVEL = 150
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [Databases].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [Databases] SET ANSI_NULL_DEFAULT OFF
GO
ALTER DATABASE [Databases] SET ANSI_NULLS OFF
GO
ALTER DATABASE [Databases] SET ANSI_PADDING OFF
GO
ALTER DATABASE [Databases] SET ANSI_WARNINGS OFF
GO
ALTER DATABASE [Databases] SET ARITHABORT OFF
GO
ALTER DATABASE [Databases] SET AUTO_CLOSE OFF
GO
ALTER DATABASE [Databases] SET AUTO_SHRINK OFF
GO
ALTER DATABASE [Databases] SET AUTO_UPDATE_STATISTICS ON
GO
ALTER DATABASE [Databases] SET CURSOR_CLOSE_ON_COMMIT OFF
GO
ALTER DATABASE [Databases] SET CURSOR_DEFAULT  GLOBAL
GO
ALTER DATABASE [Databases] SET CONCAT_NULL_YIELDS_NULL OFF
GO
```

```
ALTER DATABASE [Databases] SET NUMERIC_ROUNDABORT OFF
GO
ALTER DATABASE [Databases] SET QUOTED_IDENTIFIER OFF
GO
ALTER DATABASE [Databases] SET RECURSIVE_TRIGGERS OFF
GO
ALTER DATABASE [Databases] SET  DISABLE_BROKER
GO
ALTER DATABASE [Databases] SET AUTO_UPDATE_STATISTICS_ASYNC
OFF
GO
ALTER DATABASE [Databases] SET DATE_CORRELATION_OPTIMIZATION
OFF
GO
ALTER DATABASE [Databases] SET TRUSTWORTHY OFF
GO
ALTER DATABASE [Databases] SET ALLOW_SNAPSHOT_ISOLATION OFF
GO
ALTER DATABASE [Databases] SET PARAMETERIZATION SIMPLE
GO
ALTER DATABASE [Databases] SET READ_COMMITTED_SNAPSHOT OFF
GO
ALTER DATABASE [Databases] SET HONOR_BROKER_PRIORITY OFF
GO
ALTER DATABASE [Databases] SET RECOVERY SIMPLE
GO
ALTER DATABASE [Databases] SET  MULTI_USER
GO
ALTER DATABASE [Databases] SET PAGE_VERIFY CHECKSUM
GO
ALTER DATABASE [Databases] SET DB_CHAINING OFF
GO
ALTER DATABASE [Databases] SET FILESTREAM(
NON_TRANSACTED_ACCESS = OFF )
GO
ALTER DATABASE [Databases] SET TARGET_RECOVERY_TIME = 60
SECONDS
GO
```

```
ALTER DATABASE [Databases] SET DELAYED_DURABILITY = DISABLED
GO
ALTER DATABASE [Databases] SET QUERY_STORE = OFF
GO
ALTER DATABASE [Databases] SET  READ_WRITE
GO
```



References

Much of the contents of the topic is derived from

- https ://www.w3resource . com
- https : // www. mysql. Com
- https:// www.w3school.com