CAR RENTAL DATA BASE

INTRODUCTION

- The main aim is to select the Car Rental Database Project in Database Management System (DBMS) is a system aimed at streamlining the management of car rental services.
- It organizes information about cars, customers, reservations, and transactions.
- This project ensures efficient tracking of available cars, customer details, reservation schedules, and rental transactions.
- By providing a structured and centralized database, it enhances the overall management and accessibility of crucial data, contributing to a more effective and organized car rental service.

DDL COMMANDS :

- DDL stands for Data Definition Language.
- DDL commands are used to work with the structure of the database.
- There are five types of DDL commands are available in sql.

1. Create : It is used to create a table or database
   syntax – Create table table_name(column1,datatype(size),…….);
2. Alter : It is used to modify structure of an existing table.
   There are 3 different types in Alter command.
   a. Alter command to add new column :
      syntax – Alter table table_name ADD (column_name,datatype(size));
   b. Alter command to drop a column :
      syntax – Alter table table_name DROP (column_name,datatype(size));
   c. Alter command to modify :
      syntax – Alter table table_name MODIFY (column_name,datatype(size));
3. DROP : It is used to delete existing object from a database.
   syntax – DROP table table_name;
4. RENAME : It is used to rename a table.
   syntax – RENAME < old table name > to < new table name > ;
5. TRUNCATE : It is used to delete complete data in a table and it cannot be rollback.
   syntax – TRUNCATE table table_name;

DML COMMANDS :

- DML stand for Data Manipulation Language.
- It is used to insert, modify, delete and retrieve the data in a database.
- There are three types of DML commands are available in sql.

1. INSERT : It is used to insert records to the existing table.
   There are 3 ways to insert records into a table.
   a. To insert values for one record :
      syntax – INSERT INTO table_name values (value1,value2…….);
   b. To insert value for particular column :
      syntax - INSERT INTO table_name (col1,col2……) values (val1,val2……);
   c. To insert multiple records at a time :
      syntax - INSERT INTO table_name values(&col_name1,&col_name2.....);
2. UPDATE : It is used to update or modify the value of a column in a table.
   There are 2 ways to update records into a table.
   a. To update all records :
      syntax – UPDATE table_name SET column = Values;
   b. TO update specific records :
      syntax – UPDATE table_name SET column= Values where condition;
3. DELETE : It is used to delete records from table and it can be rollback.
   There are 2 ways to delete records into a table.
   a. To delete all records : syntax – DELETE from table_name;
   b. To delete specific records : syntax – DELETE from table_name where condition;

DCL COMMANDS :

- DCL stands for Data Control Language.
- It is used to give privileges to access limited data.
- There are two types of commands under DCL.

1. GRANT : It is used to give a permissions to users.
   syntax – GRANT privilege name ON obj _ name TO user _ name;

2. REVOKE : It takes permission back from users.
   syntax – REVOKE privilege _ name ON obj_ name FROM user _ name;

DQL COMMAND :

- It stands for Data Query Language.
- It is used to access data or records from a table.

1. SELECT :
   syntax – SELECT * from table_name ;

QUERIES :

```
SQL> create table car(CAR_ID int not null primary key, MODEL varchar2(13),YEAR int , REGNO int , STATUS
varchar2(13));
Table created.
SQL> alter table car modify regno varchar2(10);
Table altered.
SQL> desc car;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 CAR_ID                                    NOT NULL NUMBER(38)
 MODEL                                              VARCHAR2(13)
 YEAR                                               NUMBER(38)
 REGNO                                              VARCHAR2(10)
 STATUS                                             VARCHAR2(13)

SQL> insert into car values(1101,'Swift',2000,'AP39AA1234','Available’);
SQL> insert into car values(1102,'Baleno',2019,'AP39BB1235','Pending’);
SQL> insert into car values(1103,'Innova',2017,'AP39CC1678','Available');
SQL> insert into car values(1104,'XUV700',2020,'AP39DD1987','Pending');
```

```
SQL> insert into car values(1105,'Thar',2021,'AP39EE7654','Available’);

SQL> insert into car values(1106,'BNW',2021,'AP39EE4321','Available’);

SQL> insert into car values(1107,'Creta',2023,'AP39EE5555','Pending’);

SQL> insert into car values(1108,'Benz',2021,'AP39EE4587','Available’);

SQL> insert into car values(1109,'XUV500',2020,'AP39EE3214','Pending’);

SQL> insert into car values(1110,'Swift desire',2019,'AP39EE6985','Available’);

SQL> insert into car values(1111,'Forturner',2018,'AP39EE1478','pending’);

SQL> insert into car values(1112,'Ford',2016,'AP39EE6589','Available’);

SQL> insert into car values(1113,'Neion',2016,'AP39EE6589','Pending’);

SQL> insert into car values(1114,'Audi',2018,'AP39EE6547','Available’);

SQL> insert into car values(1115,'Skoda',2019,'AP39EE1111','Pending’);

SQL> commit;
Commit complete.
```

OUTPUT:

SQL> select * from car;

CAR_ID	MODEL	YEAR	REGNO	STATUS
1101	Swift	2000	AP39AA1234	Available
1102	Baleno	2019	AP39BB1235	Pending
1103	Innova	2017	AP39CC1678	Available
1104	XUV700	2020	AP39DD1987	Pending
1105	Thar	2021	AP39EE7654	Available
1106	BNW	2021	AP39EE4321	Available
1107	Creta	2023	AP39EE5555	Pending
1108	Benz	2021	AP39EE4587	Available
1109	XUV500	2020	AP39EE3214	Pending
1110	Swift desire	2019	AP39EE6985	Available
1111	Forturner	2018	AP39EE1478	Pending
1112	Ford	2016	AP39EE6589	Available
1113	Neion	2016	AP39EE6589	Pending
1114	Audi	2018	AP39EE6547	Available
1115	Skoda	2019	AP39EE1111	Pending

```
SQL> insert into customer values(01,'Saranya',6281000247);

SQL> insert into customer values(02,'Naveen',9989950421);

SQL> insert into customer values(03,'Akshara',9676398166);

SQL> insert into customer values(04,'Aiswarya',8341636599);

SQL> insert into customer values(05,'Akhila',8688227326);

SQL> insert into customer values(06,'Gayatri',7386585079);

SQL> insert into customer values(07,'Kasi reddy',9390902073);

SQL> insert into customer values(08,'Srikar',9392139541);

SQL> insert into customer values(09,'Nawaz',7036215706);

SQL> insert into customer values(10,'Teja',63006898771);

SQL> insert into customer values(11,'Ashitha',8309914346);
```

```
SQL> insert into customer values(13,'Sree durga',6302542380);

SQL> insert into customer values(14,'Karthik',863960101);

SQL> insert into customer values(15,'Lasya',9398830215);

SQL> insert into customer values(16,'Pavithra',8978038015);

SQL> insert into customer values(17,'Asritha',8247374686);

SQL> insert into customer values(18,'Chaitanya',9398172170);

SQL> insert into customer values(19,'Radha',9518659231);

1 row created.

SQL> insert into customer values(20,'Pravallika',9010414507);

1 row created.

SQL> commit;
```

SQL> select * from customer;

CID	CNAME	PHNO
1	Saranya	6281000247
2	Naveen	9989950421
3	Akshara	9676398166
4	Aiswarya	8341636599
5	Akhila	8688227326
6	Gayatri	7386585079
7	Kasi Reddy	9390902073
8	Srikar	9392139541
9	Nawaz	7036215706
10	Teja	6300689877
11	Ashitha	8309914346
12	Swathi	7997591022
13	Sree Durga	6302542380
14	Karthik	8639601018
15	Lasya	9398830215
16	Pavithra	8978038015
17	Asritha	8247374686
18	Chaitanya	9398172170
19	Radha	9518659231
20	Pravallika	9010414507

```
SQL> create table transaction(TRANS_ID int NOT NULL PRIMARY KEY,START_DATE date,END_DATE date,RENT_COST int,CAR_ID INT, FOREIGN KEY(CAR_ID) REFERENCES CAR(CAR_ID), CID INT, FOREIGN KEY(CID) REFERENCES customer(cid));

SQL> INSERT INTO TRANSACTION VALUES(201,DATE '2023-01-22',date '2023-01-23',2000,1101,01);

SQL> INSERT INTO TRANSACTION VALUES(202,DATE '2023-01-22',date '2023-01-23',2500,1111,02);

SQL> INSERT INTO TRANSACTION VALUES(203,DATE '2023-01-28',date '2023-01-27',3500,1103,03);

SQL> INSERT INTO TRANSACTION VALUES(204,DATE '2023-02-22',date '2023-02-23',4000,1104,04);

SQL> INSERT INTO TRANSACTION VALUES(205,DATE '2023-02-22',date '2023-02-23',5000,1105,05);

SQL> INSERT INTO TRANSACTION VALUES(206,DATE '2023-02-22',date '2023-02-23',4000,1108,06);

SQL> INSERT INTO TRANSACTION VALUES(209,DATE '2023-02-28',date '2023-03-29',2500,1115,09);

SQL> INSERT INTO TRANSACTION VALUES(210,DATE '2023-04-18',date '2023-04-19',2500,1112,10);

SQL> INSERT INTO TRANSACTION VALUES(208,DATE '2023-10-18',date '2023-10-19',2500,1106,11);

SQL> INSERT INTO TRANSACTION VALUES(211,DATE '2023-10-30',date '2023-10-31',2500,1107,12);

SQL> INSERT INTO TRANSACTION VALUES(212,DATE '2023-10-10',date '2023-10-11',4500,1110,13);
```

SQL> select * from transaction;

TRANS_ID	START_DAT	END_DATE	RENT_COST	CAR_ID	CID
201	22-JAN-23	23-JAN-23	2000	1101	1
202	22-JAN-23	23-JAN-23	2500	1111	2
203	28-JAN-23	27-JAN-23	3500	1103	3
204	22-FEB-23	23-FEB-23	4000	1104	4
205	22-FEB-23	23-FEB-23	5000	1105	5
206	22-FEB-23	23-FEB-23	4000	1108	6
207	27-FEB-23	28-FEB-23	3500	1109	7
209	28-FEB-23	29-MAR-23	2500	1115	9
210	18-APR-23	19-APR-23	2500	1112	10
208	18-OCT-23	19-OCT-23	2500	1106	11
211	30-OCT-23	31-OCT-23	2500	1107	12
212	10-OCT-23	11-OCT-23	4500	1110	13

12 rows selected

SQL> create table employee(EID INT NOT NULL PRIMARY KEY,ENAME VARCHAR(13),ROLE VARCHAR(10));

Table created.

ALTER

SQL> alter table employee add salary int;

Table altered.

SQL> select * from employee;

EID	ENAME	ROLE	SALARY
501	ASMATH	HR	
502	RAHUL	DRIVER	
503	SAI	CLEANER	
504	BRAMHA REDDY	MECHANIC	
505	DURGA	CASHIER	
506	DEEPIKA	RECEPTION	
507	AMBANI	MANAGER	

UPDATE:

```
SQL> update employee set salary=30000 where eid=501;

1 row updated.

SQL> update employee set salary=15000 where eid=502;

1 row updated.

SQL> update employee set salary=10000 where eid=503;

1 row updated.

SQL> update employee set salary=8000 where eid=504;

1 row updated.

SQL> update employee set salary=8000 where eid=505;

1 row updated.
```

SQL> update employee set salary=7000 where eid=506;

1 row updated.

SQL> update employee set salary=40000 where eid=507;

1 row updated.

SQL> select * from employee;

EID	ENAME	ROLE	SAL
501	ASMATH	HR	30000
502	RAHUL	DRIVER	15000
503	SAI	CLEANER	10000
504	BRAMHA REDDY	MECHANIC	8000
505	DURGA	CASHIER	8000
506	DEEPIKA	RECEPTION	7000
507	AMBANI	MANAGER	40000

DROP:

SQL> DROP TABLE EMPLOYEE;

Table dropped.

COUNT:

SQL> select count(status) from car where status='Available';

COUNT(STATUS)
7

MAX:

SQL> select max(salary) from employee;

MAX(SALARY)
40000

AVERAGE(AVG):

select Avg(salary) from (select salary from employee where eid=502);

AVG(SALARY)
15000

SUB QUERY

select eid , ename , role,salary from employee where salary < (select avg(salary) from employee);

EID	ENAME	ROLE	SALARY
502	RAHUL	DRIVER	15000
503	SAI	CLEANER	10000
504	BRAMHA REDDY	MECHANIC	8000
505	DURGA	CASHIER	8000
506	DEEPIKA	RECEPTION	7000

```
SQL> update customer set model='Swift' where cid=1;
 1 row updated.

SQL> update customer set model='Benz' where cid=2;
1 row updated.

SQL> update customer set model='Ford' where cid=3;
1 row updated.

SQL> update customer set model='Skoda' where cid=4;
1 row updated.

SQL> update customer set model='Audi' where cid=5;
1 row updated.

SQL> update customer set model='Neion' where cid=6:
1 row updated.

SQL> update customer set model='Creta' where cid=7;
1 row updated.

SQL> update customer set model='Baleno' where cid=8;
1 row updated.
```

```
SQL> update customer set model='Thar' where cid=9;
1 row updated.

SQL> update customer set model='BMW' where cid=10;
1 row updated.

SQL> update customer set model='Innova' where cid=11;
1 row updated.

SQL> update customer set model='XUV700' where cid=12;
1 row updated.

SQL> update customer set model='Fortuner' where cid=13;
1 row updated.

SQL> update customer set model='Audi' where cid=14;
1 row updated.

SQL> update customer set model='Skoda' where cid=15;
1 row updated.

SQL> update customer set model='Neion' where cid=16;
1 row updated.
```

```
SQL> update customer set model='XUR700' where cid=17;
1 row updated.

SQL> update customer set model='Benz' where cid=18;
1 row updated.

SQL> update customer set model='Swift' where cid=19;
1 row updated.

SQL> update customer set model='Benz' where cid=20;
1 row updated.
```

SQL> select * from customer;

CID CNAME	PHNO	MODEL
1 Saranya	6281000247	Swift
2 Naveen	9989950421	Benz
3 Akshara	9676398166	Ford
4 Aiswarya	8341636599	Skoda
5 Akhila	8688227326	Audi
6 Gayatri	7386585079	Neion
7 Kasi reddy	9390902073	Creta
8 Srikar	9392139541	Baleno
9 Nawaz	7036215706	Thar
10 Teja	6300689877	BMW
11 Ashitha	8309914346	Innova
12 Swathi	7997591022	XUV500
13 Sree durga	6302542380	Fortuner
14 Karthik	8639601018	Audi
15 Lasya	9398830215	Skoda
16 Pavithra	8978038015	Neion
17 Asritha	8247374686	XUV700
18 Chaitanya	9398172170	Benz
19 Radha	9518659231	Swift
20 Pravallika	9010414507	Benz

SQL JOINS:

- A JOIN clause is used to combine rows from two or more tables,based on a related column between them.

Different types of SQL joins:

Inner join: It returns record that have matching values in both tables.

Left join:It returns all records from the left tables, and the matched records from the right tables.

Right join:It returns all the records from the right tables, and the matched records from the left tables.

Full join:It returns all records when there is match in either left or right table.

INNER JOIN:

SQL> select car.car_id , car.model,Customer.cname from car inner join Customer on car.model = Customer.model;

CAR_ID	MODEL	CNAME
1101	Swift	Saranya
1108	Benz	Naveen
1112	Ford	Akshara
1115	Skoda	Aiswarya
1114	Audi	Akhila
1113	Neion	Gayatri
1107	Creta	Kasi reddy
1102	Baleno	Srikar
1105	Thar	Nawaz
1103	Innova	Ashitha
1109	XUV500	Swathi
1114	Audi	Karthik
1115	Skoda	Lasya
1113	Neion	Pavithra
1104	XUV700	Asritha
1108	Benz	Chaitanya
1101	Swift	Radha
1108	Benz	Pravallika

18 rows selected.

LEFT OUTER JOIN SQL> select car.car_id , car.model,Customer.cname from car left join Customer on car.model =Customer.model;

CAR_ID	MODEL	CNAME
1101	Swift	Saranya
1108	Benz	Naveen
1112	Ford	Akshara
1115	Skoda	Aiswarya
1114	Audi	Akhila
1113	Neion	Gayatri
1107	Creta	Kasi reddy
1102	Baleno	Srikar
1105	Thar	Nawaz
1103	Innova	Ashitha
1109	XUV500	Swathi
1114	Audi	Karthik
1115	Skoda	Lasya
1113	Neion	Pavithra
1108	Benz	Chaitanya
1101	Swift	Radha
1108	Benz	Pravallika
1111	Forturner	
1110	Swift desire	
1104	XUV700	
1106	BNW	

21 rows selected.

RIGHT JOIN

SQL> select car .car_id , car.model, Customer.cname from car right join Customer on car.model = Customer.model;

CAR_ID	MODEL	CNAME
1101	Swift	Radha
1101	Swift	Saranya
1102	Baleno	Srikar
1103	Innova	Ashitha
1105	Thar	Nawaz
1107	Creta	Kasi reddy
1108	Benz	Pravallika
1108	Benz	Chaitanya
1108	Benz	Naveen
1109	XUV500	Swathi
1112	Ford	Akshara
1113	Neion	Pavithra
1113	Neion	Gayatri
1114	Audi	Karthik
1114	Audi	Akhila
1115	Skoda	Lasya
1115	Skoda	Aiswarya

20 rows selected.

SQL> select car.car_id , car.model,Customer.cname from car **full join** Customer on car.model = Customer.model;

CAR_ID	MODEL	CNAME
1101	Swift	Saranya
1108	Benz	Naveen
1112	Ford	Akshara
1115	Skoda	Aiswarya
1114	Audi	Akhila
1113	Neion	Gayatri
1107	Creta	Kasi reddy
1102	Baleno	Srikar
1105	Thar	Nawaz
1103	Innova	Ashitha
1109	XUV500	Swathi
1114	Audi	Karthik
1115	Skoda	Lasya
1113	Neion	Pavithra
1108	Benz	Chaitanya
1101	Swift	Radha
1108	Benz	Pravallika
1111	Forturner	
1110	Swift desire	
1104	XUV700	
1106	BNW	

SUMMARY

- Our Aim is to design and create a data management System for a car rental company .This enables admin can rent a vehicle that can be used by a customer This system increases customer retention and simplify vehicle and staff Management in an efficient way. This software car Rental System has a very user friendly interface. Thus the users will feel very easy to work on it.
- By using this system admin can manage customer confirm and cancel booking request, customer Testimonials, customer issues. The car information can be added to the system. Or existed car information can be edited or deleted too by Administrator . There is no delay in the availability of any car information, whenever needed, car information can be Captured very quickly and easily. The customers can also use the system to get car rent.
- The customer should create a new account before logging in or he / she can log into the System with his/her created account. Then he/she can book the available cars and can book this car .This system will helpful to the admin as well as to the customer also.

Learning outcomes:

1.Working expertise of DDL,DQL,DCL,TCL and DML commands with their application on solving On real time problems.

2. Ability to apply filters using where clause and nested queries, integrity constraints at table level and column even and to use built-in functions including numeric character and date functions.

THANK YOU

Submitted by:

R. Akshara(0325)
D. Aishwarya(6017)
Ch . Akhila (5954)
P. Gayatri(6190)
Ch B N Saranya(2280)
O. Srikar (0281)
Sh. Nawaz(5175)
S. Naveen(4000)
K. Teja(5168)