# DBMS LAB

1. DATABASE AND TABLE CREATION

```
show databases;
create database test;
use test;

create table person(
driver_id varchar(10) primary key,
name varchar(20),
adress varchar(30));
desc person;

create table car(
reg_num varchar(10) primary key,
model varchar(10),
year int);
desc car;

create table accident(
report_num int primary key,
 accident_date date,
 location varchar(20) );
 desc accident;
   --
 create table owns(driver_id varchar(10),reg_num varchar(10),
primary key(driver_id, reg_num),
foreign key(driver_id) references person(driver_id),
foreign key(reg_num) references car(reg_num));
desc owns;

create table participated(driver_id varchar(10), reg_num varchar(10),
report_num int, damage_amount int,
primary key(driver_id, reg_num, report_num),
foreign key(driver_id) references person(driver_id),
foreign key(reg_num) references car(reg_num),
foreign key(report_num) references accident(report_num));
desc participated;
```

## 2.INSERTING VALUES TO THE TABLE

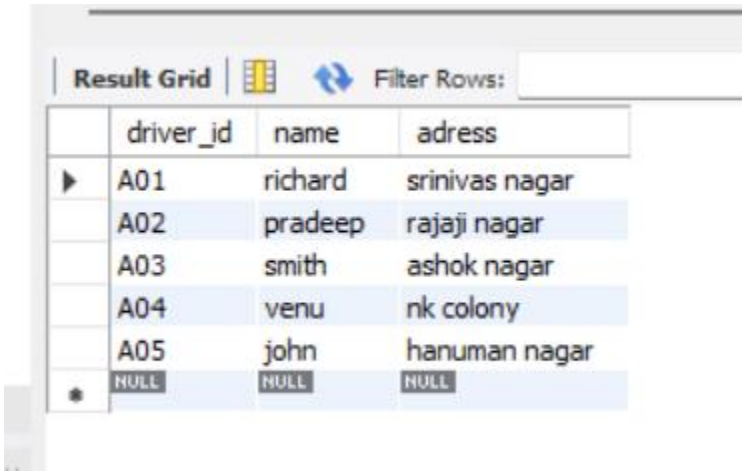
```
insert into person values("A01","richard","srinivas nagar"),
("A02","pradeep","rajaji nagar"),
("A03","smith","ashok nagar"),
("A04","venu","nk colony"),
("A05","john","hanuman nagar");

insert into car values("KA052250","indica",1990),
("KA052251","toyota",1957),
("KA052252","honda",1998),
("KA052253","audi",2008),
("KA052254","lambo",2005);

insert into owns values("A01","KA052250"),
("A02","KA052251"),
("A03","KA052252"),
("A04","KA052253"),
("A05","KA052254");

INSERT INTO accident VALUES(11, '2003-01-01', 'Mysore Road'),
(12, '2004-02-02', 'South end Circle'),
(13, '2003-01-21', 'Bull temple Road'),
(14, '2008-02-17', 'Mysore Road'),
(15, '2005-03-04', 'Kanakpura Road');


INSERT INTO participated VALUES('A01', 'KA052250', 11, 10000),
('A02', 'KA052251', 12, 20000),
('A03', 'KA052252', 13, 25000),
('A04', 'KA052253', 14, 30000),
('A05', 'KA052254', 15, 50000);
```

## VIEWING THE TABLES

```
select * from person;
select * from car;
select * from owns;
select*from accident;
select*from participated;
```

TABLES WITH VALUES (OUTPUT)

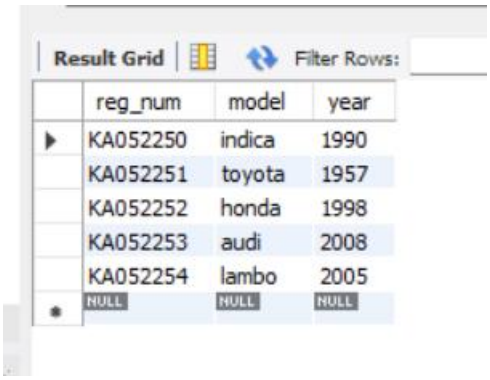
1. PERSON



Result Grid | Filter Rows:

| driver_id | name | adress |
|---|---|---|
| A01 | richard | srinivas nagar |
| A02 | pradeep | rajaji nagar |
| A03 | smith | ashok nagar |
| A04 | venu | nk colony |
| A05 | john | hanuman nagar |
| NULL | NULL | NULL |

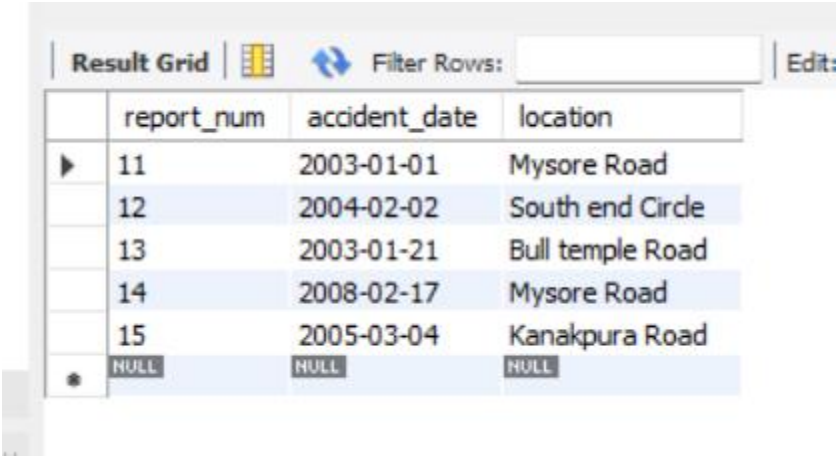
2. CAR



Result Grid | Filter Rows:

| reg_num | model | year |
|---|---|---|
| KA052250 | indica | 1990 |
| KA052251 | toyota | 1957 |
| KA052252 | honda | 1998 |
| KA052253 | audi | 2008 |
| KA052254 | lambo | 2005 |
| NULL | NULL | NULL |

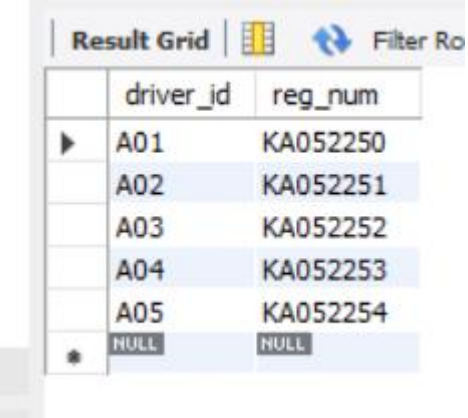
3 ACCIDENT



Result Grid | Filter Rows: | Edit:

| report_num | accident_date | location |
|---|---|---|
| 11 | 2003-01-01 | Mysore Road |
| 12 | 2004-02-02 | South end Circle |
| 13 | 2003-01-21 | Bull temple Road |
| 14 | 2008-02-17 | Mysore Road |
| 15 | 2005-03-04 | Kanakpura Road |
| NULL | NULL | NULL |

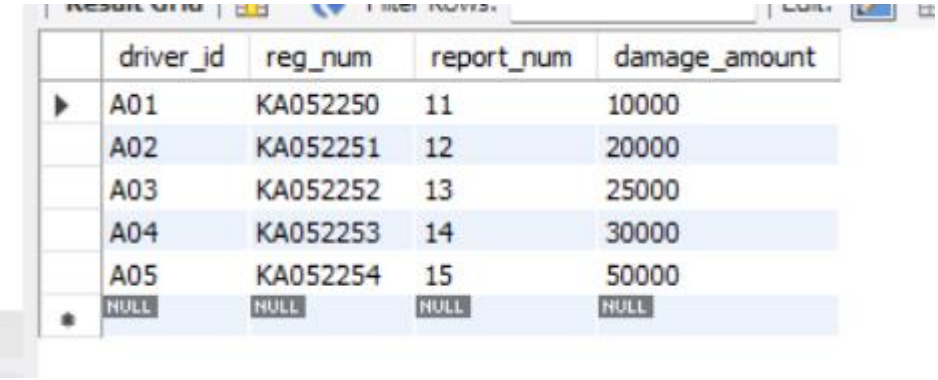
4 OWNS



Result Grid | Filter Ro

| driver_id | reg_num |
|---|---|
| A01 | KA052250 |
| A02 | KA052251 |
| A03 | KA052252 |
| A04 | KA052253 |
| A05 | KA052254 |
| NULL | NULL |

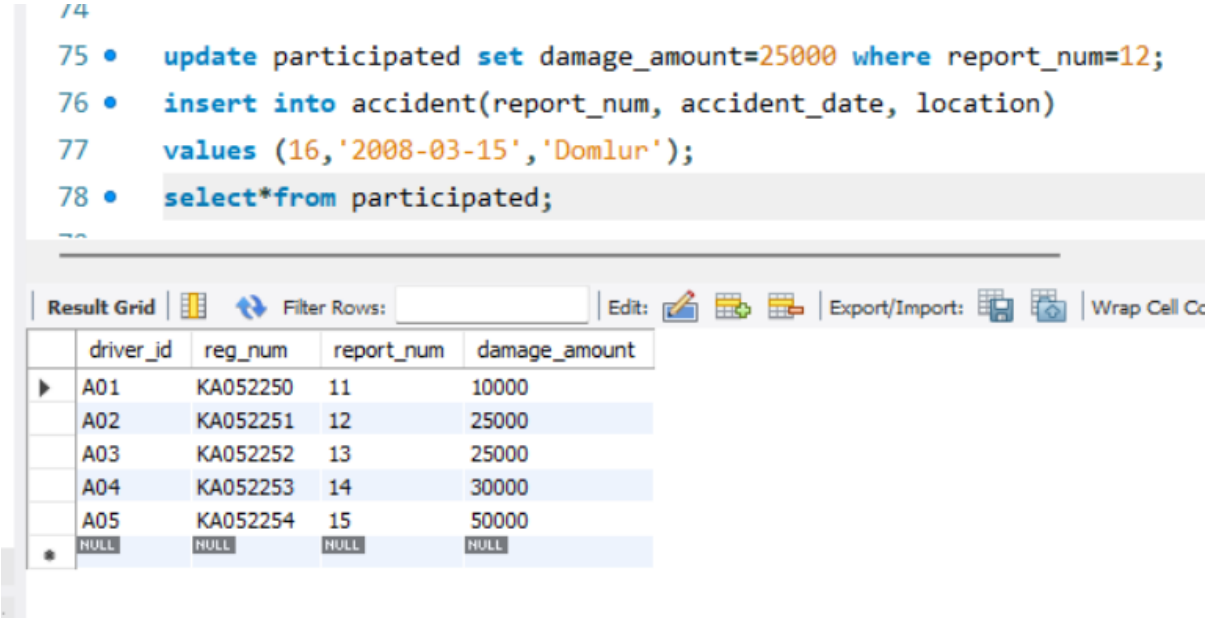
5 PARTICIPATED



| driver_id | reg_num | report_num | damage_amount |
|---|---|---|---|
| A01 | KA052250 | 11 | 10000 |
| A02 | KA052251 | 12 | 20000 |
| A03 | KA052252 | 13 | 25000 |
| A04 | KA052253 | 14 | 30000 |
| A05 | KA052254 | 15 | 50000 |
| NULL | NULL | NULL | NULL |

EXECUTING QUERIES

1. UPDATE



```
75 • update participated set damage_amount=25000 where report_num=12;
76 • insert into accident(report_num, accident_date, location)
77   values (16,'2008-03-15','Domlur');
78 • select*from participated;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Co

| driver_id | reg_num | report_num | damage_amount |
|---|---|---|---|
| A01 | KA052250 | 11 | 10000 |
| A02 | KA052251 | 12 | 25000 |
| A03 | KA052252 | 13 | 25000 |
| A04 | KA052253 | 14 | 30000 |
| A05 | KA052254 | 15 | 50000 |
| NULL | NULL | NULL | NULL |

2. ORDERING BY YEAR (ASCENDING)

```
80
81 •  select * from car order by year asc;
```

Result Grid | Filter Rows: | Edit:

| reg_num | model | year |
|---|---|---|
| KA052251 | toyota | 1957 |
| KA052250 | indica | 1990 |
| KA052252 | honda | 1998 |
| KA052254 | lambo | 2005 |
| KA052253 | audi | 2008 |
| NULL | NULL | NULL |

3. NUMBER OF ACCIDENTS CAUSED BY SPECIFIC CAR

```
83 •  select count(*) CNT from car c,participated p where c.reg_num=p.reg_num and model="audi";
84
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| CNT |
|---|
| 1 |

4. TOTAL NO OF PEOPLE THAT MET ACCIDENT IN 2008

```
85 •  select count( driver_id) CNT
86    from participated a,accident b
87    where a.report_num=b.report_num and year(b.accident_date)=2003;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| CNT |
|---|
| 2 |

5. PARTCIPATED IN DECENDING

```
89 •  select * from participated order by damage_amount desc;
90
```

Result Grid | Filter Rows: | Edit: | Export/Import:

| driver_id | reg_num | report_num | damage_amount |
|---|---|---|---|
| A05 | KA052254 | 15 | 50000 |
| A04 | KA052253 | 14 | 30000 |
| A02 | KA052251 | 12 | 25000 |
| A03 | KA052252 | 13 | 25000 |
| A01 | KA052250 | 11 | 10000 |
| NULL | NULL | NULL | NULL |

6. Show all accidents (date and location)

```
90
91 •  select accident_date, location from  accident;
92
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| accident_date | location |
|---|---|
| 2003-01-01 | Mysore Road |
| 2004-02-02 | South end Circle |
| 2003-01-21 | Bull temple Road |
| 2008-02-17 | Mysore Road |
| 2005-03-04 | Kanakpura Road |
| 2008-03-15 | Domlur |

7. Find drivers who caused damage ≥ 25000

```
93 •  SELECT DISTINCT p.driver_id, p.name
94    FROM person p
95    JOIN participated par
96      ON par.driver_id = p.driver_id
97    WHERE par.damage_amount >= 25000
```

Result Grid | Filter Rows: | Export: | Wrap

| driver_id | name |
|---|---|
| A02 | pradeep |
| A03 | smith |
| A04 | venu |
| A05 | john |

8. List each driver with the cars they own

```
145 •  select p.name ,c.model
146    from person p
147    join owns o on o.driver_id=p.driver_id
148    join car c on c.reg_num=o.reg_num;
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

| name | model |
|---|---|
| richard | indica |
| pradeep | toyota |
| smith | honda |
| venu | audi |
| john | lambo |

9 Show accidents and the drivers involved (including damage amount)

```
150 •  use test;
151 •  SELECT a.report_num,
152            a.accident_date,
153            a.location,
154            p.name AS driver_name,
155            pa.damage_amount
156    FROM accident a
157    JOIN participated pa ON a.report_num = pa.report_num
158    JOIN person p ON pa.driver_id = p.driver_id
159    ORDER BY a.report_num;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| report_num | accident_date | location | driver_name | damage_amount |
|---|---|---|---|---|
| 11 | 2003-01-01 | Mysore Road | richard | 10000 |
| 12 | 2004-02-02 | South end Circle | pradeep | 25000 |
| 13 | 2003-01-21 | Bull temple Road | smith | 25000 |
| 14 | 2008-02-17 | Mysore Road | venu | 30000 |
| 15 | 2005-03-04 | Kanakpura Road | john | 50000 |

10 Total damage per accident report

```
161  SELECT report_num, SUM(damage_amount) AS total_damage
162  FROM participated
163  GROUP BY report_num;
164
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| report_num | total_damage |
|---|---|
| 11 | 10000 |
| 12 | 25000 |
| 13 | 25000 |
| 14 | 30000 |
| 15 | 50000 |

11 Drivers who were involved in more than one accident

```
165  SELECT driver_id, COUNT(DISTINCT report_num) AS accidents_involved
166  FROM participated
167  GROUP BY driver_id
168  HAVING COUNT(DISTINCT report_num) >= 1;
169
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| driver_id | accidents_involved |
|---|---|
| A01 | 1 |
| A02 | 1 |
| A03 | 1 |
| A04 | 1 |
| A05 | 1 |

12 Cars that never had an accident (owned but not in participated)

```
170 •   SELECT c.reg_num, c.model, c.year
171     FROM car c
172     WHERE c.reg_num NOT IN (
173         SELECT DISTINCT reg_num
174         FROM participated
175     );
176
```

Result Grid | Filter Rows: | Edit:

| reg_num | model | year |
|---|---|---|
| NULL | NULL | NULL |

13) Latest accident (most recent accident_date)

```
177 •   SELECT *
178     FROM accident
179     WHERE accident_date = (
180         SELECT MAX(accident_date)
181         FROM accident
182     );
183
184
```

Result Grid | Filter Rows: | Edit:

| report_num | accident_date | location |
|---|---|---|
| 16 | 2008-03-15 | Domlur |
| NULL | NULL | NULL |

14 Average damage amount per driver

```
184 •   SELECT driver_id,AVG(damage_amount) AS avg_damage
185     FROM participated
186     GROUP BY driver_id;
187
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

| driver_id | avg_damage |
|---|---|
| A01 | 10000.0000 |
| A02 | 25000.0000 |
| A03 | 25000.0000 |
| A04 | 30000.0000 |
| A05 | 50000.0000 |

15 Update: set damage_amount = 25000 for a specific car & report (example)

```
38 •   UPDATE participated
39     SET damage_amount = 25000
40     WHERE reg_num = 'KA01AB1234'
41       AND report_num = 105;
42
```

16 Find drivers who caused the maximum damage in any single accident

```
193 •   SELECT p.driver_id, p.name, pa.damage_amount
194     FROM participated pa
195     JOIN person p ON p.driver_id = pa.driver_id
196     WHERE pa.damage_amount = (
197         SELECT MAX(damage_amount)
198         FROM participated
199     );
200
201
```

Result Grid | Filter Rows: | Export: | Wrap

| driver_id | name | damage_amount |
|---|---|---|
| A05 | john | 50000 |

17 Show cars (model) involved in accidents with total damage > 20000

```
201 •  SELECT c.model, SUM(pa.damage_amount) AS total_damage
202    FROM participated pa
203    JOIN car c ON pa.reg_num = c.reg_num
204    GROUP BY c.model
205    HAVING SUM(pa.damage_amount) > 20000;
206
207
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

| model | total_damage |
|---|---|
| toyota | 25000 |
| honda | 25000 |
| audi | 30000 |
| lambo | 50000 |

18 Create a view summarizing accidents with participants count and total damage

```
208 •  SELECT a.report_num,
209            a.accident_date,
210            COUNT(pa.driver_id) AS participants_count,
211            SUM(pa.damage_amount) AS total_damage
212    FROM accident a
213    JOIN participated pa ON a.report_num = pa.report_num
214    GROUP BY a.report_num, a.accident_date;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| report_num | accident_date | participants_count | total_damage |
|---|---|---|---|
| 11 | 2003-01-01 | 1 | 10000 |
| 12 | 2004-02-02 | 1 | 25000 |
| 13 | 2003-01-21 | 1 | 25000 |
| 14 | 2008-02-17 | 1 | 30000 |
| 15 | 2005-03-04 | 1 | 50000 |