DBMS-WEEK 1

CODE:

1) CREATING TABLES

```
show databases;
create database suj;
use suj;
create table person (driver_id varchar(10),
name varchar(20),
address varchar(30),
primary key(driver_id));
desc person;
create table car(reg_num varchar(10),model varchar(10),year int, primary key(reg_num));
desc car;
create table accident(report_num int, accident_date date, location varchar(20),primary
key(report_num));
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

```
insert into person values('A01','Richard','Srinivasa nagar');

insert into person values('A02','Pradeep','Rajajinagar');

commit;

insert into car values('KA052250','Indica', 1990);

insert into car values('KA031181','Lanzer', 1957);

commit;

insert into accident values(111,'2003-01-01','Mysore Road');

insert into accident values(112,'2004-02-03','SouthEnd Circle');

commit;

insert into owns values ('A01','KA052250');

insert into owns values ('A02','KA031181');

commit;

insert into participated values('A01','KA052250',111,10000);

insert into participated values('A02','KA031181',112,50000);

commit;

insert into person values('A03','Smith','Ashoknagar'),('A04','venu','N.R.
Colony'),('A05','John','Hanumanth Nagar');

commit;

insert into car values('KA095477','Toyota',1998),('KA053408','Honda',2008),('KA041702','Audi',2005);

commit;

insert into accident values(113,'2003-01-21','Bull Temple road'),(114,'2008-02-17','Mysore
Road'),(115,'2005-03-04','Kanakpura Road');

commit;

insert into owns values ('A03','KA053408'),('A04','KA095477'),('A05','KA041702');

commit;

insert into participated
values('A03','KA053408',113,25000),('A04','KA095477',114,3000),('A05','KA041702',115,5000);

commit;
```

3)QUERIES:

```
select accident_date,location from accident;

select p.name from person p,participated pa where(p.driver_id=pa.driver_id and
pa.damage_amount>=25000);

select p.name,c.model from person p,car c,owns o where(c.reg_num=o.reg_num and
o.driver_id=p.driver_id);

select p.name,a.report_num,a.accident_date,a.location,pa.damage_amount  from person p,accident
a,participated pa where (pa.report_num=a.report_num and pa.driver_id=p.driver_id);

select pa.report_num,sum(pa.damage_amount) from participated pa group by pa.report_num;

select p.name from person p where 1<(select count(*)from participated pa
where(p.driver_id=pa.driver_id) group by pa.driver_id);

select c.model from participated pa left join car c on pa.reg_num=c.reg_num where c.reg_num is
null;

select * from accident where accident_date=(select max(accident_date) from accident);

select p.name,avg(pa.damage_amount) from person p, participated pa
where(p.driver_id=pa.driver_id) group by pa.driver_id;

update participated pa set pa.damage_amount=25000 where pa.reg_num='KA031181';

SELECT p.name

FROM person p

WHERE p.driver_id = (

 SELECT pa.driver_id

 FROM participated pa

 WHERE pa.damage_amount = (

  SELECT MAX(damage_amount) FROM participated

 )

 LIMIT 1

);

create view accidents_summary as

select count(*),sum(pa.damage_amount)  from participated pa group by pa.report_num;


drop view accidents_summary;

create view accidents_summary as

select count(*),sum(pa.damage_amount)  from participated pa group by pa.report_num;
```

```
select * from accidents_summary;
```

```
select c.model,pa.damage_amount from car c,participated pa where (c.reg_num= pa.reg_num and
pa.damage_amount>20000);
```

OBSERVATION AND OUTPUTS:

Program 1: Insurance Database

1) Create the above tables by properly specifying primary key and foreign keys.
2) Enter atleast five tuples for each relation

1) > Create table person (driver_id varchar(10),
name varchar(20),
address varchar(30),
primary key (driver_id));

>>> Table created

> desc person

>>> Name	Null?	Type
Driver_id	Not null	Varchar(20)
Name		Varchar(20)
Address		Varchar(30)

> Create table car (reg_num varchar(10),
model varchar(10),
year int,
primary key (reg_num));

>>> Table created

> desc car

>>> Name	Null?	Type
Reg_num	Not Null	Varchar(20)
model		Varchar(10)
year		Varchar Number(38)

> Create table accident (report_num int,
accident_date date,
location varchar(20),
primary key (report_num));

classmate
Date
Page

>> Table created

> desc accident

>> Name	Null?	Type
Report_num	Not Null	Number(38)
Accident_Date		Date
Location		Varchar2(20)

> 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));

>> Table Created

> desc owns

>> Name	Null?:	Type
Driver_id	Not Null	Varchar (10)
Reg_num	Not Null	Varchar (10)

> 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 (reportnum) references accident (report_num));

>> Table created

> desc participated

>> Name	Null?:	Type
Driver_id	Not Null	Varchar2 (10)
Reg_num	Not Null	Varchar2 (10)
Report_num	Not Null	Number (38)
Damage_amount		Number (38)

ii) Enter Tuples for each relation

> insert into person values ('driver_id', 'name', 'address');

>>> Enter value for driver_id: A01
Enter value for name: Richard
Enter value for address: Srinivas Nagar
old 1: insert into person values ('&driver_id', '&name', '&address')
new 1: insert into person values ('A01', 'Richard', 'Srinivas Nagar')

1 row created.

>
>>> Enter value for driver_id: A02
Enter value for name: Pradeep
Enter value for address: Rajaji Nagar
old 1: insert into person values ('&driver_id', '&name', '&address')
new 1: insert into person values ('A02', 'Pradeep', 'Rajaji Nagar');

1 row created.

> commit
>>> Commit complete.

> select * from person;

Driver_id	Name	Address
A01	Richard	Srinivas Nagar
A02	Pradeep	Rajaji Nagar.

> insert into car values ('&reg_num', '&model', &year);
Enter value for reg_num: KA052250
Enter value for model: Indica
Enter value for year: 1990

old 1: insert into car values ('&reg_num', '&model', &year)
new 1: insert into car values ('KA05 2250', 'Indica', 1990)

1 row created

> /

>> Enter value for reg_num: KA03 1181
Enter value for model: Lancer
Enter value for year: 1957
old 1: insert into car values ('&reg_num', '&model', &year)
new 1: insert into car values ('KA03 1181', 'Lancer', 1957)

1 row created

> Commit
>> Commit complete

> Select * from car;

Reg num	Model	Year
KA05 2250	Indica	1990
KA03 1181	Lancer	1957

> insert into accident values ('&report_num', '&accident_date', '&location');

>> Enter value for report_num: 11
Enter value for accident_date: 01-JAN-03
Enter value for location: Mysore Road
old 1: insert into accident values ('&report_num', '&accident_date', '&location')
new 1: insert into accident values (11, '01-JAN-03', 'Mysore Road')

1 row created

> Commit
>> Commit complete

> select * from accident;

report_num	accident_date	location
11	01-JAN-03	Mysore Road
12	02-FEB-04	Outhered Circle

> insert into owns values ('&driver_id', '&reg_num');
Enter value for driver_id: A01
Enter value for reg_num: KA052250
old 1: insert into owns values ('&driver_id', '&reg_num')
new 1: insert into owns values ('A01', 'KA052250')
1 row created

> commit;
commit complete

> select * from owns;

driver_id	reg_num
A01	KA052250
A02	KA053408

> insert into participated values ('&driver_id', '&reg_num', &report_num, &damage_amount);
Enter value for driver_id: A01
Enter value for reg_num: KA052250
Enter value for report_num: 11
Enter value for damage_amount: 10000
old 1: insert into participated values('&driver_id', '&reg_num', &report_num, &damage_amount)
new 1: insert into participated values ('A01', 'KA052250', 11, 10000)
1 row created

> /

...

> commit;
commit complete

> select * from participated;

Driver_id	Reg_num	Report_num	Damage_amount
A01	KA052250	11	10000
A02	KA053408	12	50000

ii) Queries

a) Show all accidents (date and location)

select accident_date, location from accident;

o/p:

Accident_date	location
2003-01-01	Mysore Road
2004-02-02	South End Circle

b) Find drivers who caused damage >= 25000

select p.name from person p, participated pa where (p.driver_id = pa.driver_id and pa.damage_amount >= 25000);

Name
Pradeep
Smith

c) List each driver with the cars they own

select p.name, c.model from person p, car c, owns o where (c.reg_num = o.reg_num and o.driver_id = p.driver_id);

name	model
Richard	Indica
Pradeep	Lancer
Smith	Honda
Venu	Toyota
John	Audi

d) Show accidents and the drivers involved

```
Select p.name, a.report_num, pa.damage_amount
from person p, accident a, participated pa
where (pa.report_num = a.report_num and pa.driver_id = p.driver_id);
```

name	Report_num	damage_amount
Richard	111	10000
Pradeep	112	50000

e) Total damage per accident report

```
Select pa.report_num, sum(pa.damage_amount)
from participated pa
group by pa.report_num;
```

Report_num	sum(pa.damage_amount)
111	10000
112	50000

f) Drivers who were involved in more than one accident

```
Select p.name from person p
where 1<( select count(*) from participated pa:
        where (p.driver_id = pa.driver_id)
        group by pa.driver_id);
```

name

g) Cars that never had an accident

```
Select c.model from participated pa
left join car c
on pa.reg_num=c.reg_num where c.reg_num is null;
```

model

h) Latest accident (most recent accident_date)

select * from accident where accident_date = (select max(accident_date) from accident);

report_num	accident_date	location
114	2008-02-17	Mysore Road

i) Average damage amt per driver.

select p.name, avg(pa.damage_amount) from person p, participated pa
where (p.driver_id = pa.driver_id) groupby pa.driver_id;

name	avg(pa.damage_amount)
Richard	10000.0000
Pradeep	50000.0000

j) Update: set damage_amount = 25000 for a specific car.

update participated pa
set pa.damage_amount = 25000
where pa.reg_num = 'KA03118';

k) Find drivers who caused maximum damage in any style accident.

select p.name
from person p
where p.driver_id = (select pa.driver_id from participated pa
where pa.damage_amount = (select max(damage_amount)
from participated) limit 1);

name
Pradeep

l) Create a view summarizing accidents with participants count and total damage.

Create view accidents_summary as
Select count(*), sum(pa.damage_amount) from participated pa group by pa.report_num
accident);
Select * from accidents_summary;

count(*)	Sum(pa.damage_amount)
1	10000
1	25000
1	25000

m) Show car (model) involved in accidents with ~~participants~~ ~~which had the~~ total damage > 20000

~~Model~~
~~Lancer~~
~~Honda~~

Select C.model, pa.damage_amount from car C, participated pa
where C.reg_num = pa.reg_num and pa.damage_amount > 20000);

model	damage_amount
Lancer	25000
Honda	25000