PROGRAM 1: INSURANCE DATABASE

Consider the Insurance database given below. The data types are specified.

PERSON (driver_id: String, name: String, address: String)
CAR (reg_num: String, model: String, year: int)
ACCIDENT (report_num: int, accident_date: date, location: String)
OWNS (driver_id: String, reg_num: String)
PARTICIPATED (driver_id: String,reg_num: String, report_num: int, damage_amount: int)

i) Create the above tables by properly specifying the primary keys and the foreign keys.
ii)Enter at least five tuples for each relation.
iii)Demonstrate how you
a.Update the damage amount to 25000 for the car with a specific reg-num(example 'K A053408') for which the accident report number was 12.
b.Add a new accident to the database.
iv)Find the total number of people who owned cars that involved in accidents in 2008.
v)Find the number of accidents in which cars belonging to a specific model (example)were involved.

Tables

PERSON

driver_id	name	address
A01	Richard	Srinivas nagar
A02	Pradeep	Rajaji nagar
A03	Smith	Ashok nagar
A04	Venu	N R Colony
A05	Jhon	Hanumanth nagar

CAR

reg_num	model	year
KA052250	Indica	1990
KA031181	Lancer	1957
KA095477	Toyota	1998
KA053408	Honda	2008
KA041702	Audi	2005

OWNS

driver_id	reg_num
A01	KA052250
A02	KA053408
A03	KA031181
A04	KA095477
A05	KA041702

ACCIDENT

report_num	accident_date	location
11	01-JAN-03	Mysore Road
12	02-FEB-04	South end Circle
13	21-JAN-03	Bull temple Road
14	17-FEB-08	Mysore Road
15	04-MAR-05	Kanakpura Road

PARTICIPATED

driver_id	reg_num	report_num	damage_amount
A01	KA052250	11	10000
A02	KA053408	12	50000
A03	KA095477	13	25000
A04	KA031181	14	3000
A05	KA041702	15	5000

QUERY 1: Create the above tables by properly specifying the primary keys and the foreign keys.

SQL>**create table person (driver_id varchar(10),**
name varchar(20),
address varchar(30),
primary key(driver_id));
Table created.

SQL>**desc person**

Name	Null?	Type
DRIVER_ID	NOT NULL	VARCHAR2(10)
NAME		VARCHAR2(20)
ADDRESS		VARCHAR2(30)

SQL>**create table car(reg_num varchar(10),model varchar(10),year int,primary key(reg_num));**
Table created.

SQL>**desc car**

Name	Null?	Type
REG_NUM	NOT NULL	VARCHAR2(10)
MODEL		VARCHAR2(10)
YEAR		NUMBER(38)

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

Table created.

SQL>**desc accident**

Name	Null?	Type
REPORT_NUM	NOT NULL	NUMBER(38)
ACCIDENT_DATE		DATE
LOCATION		VARCHAR2(20)

SQL>**create table owns(driver_id varchar(10),reg_num varchar(10),**
primary key(driver_id,reg_num),
foreign key(driver_id) referencesperson(driver_id),
foreign key(reg_num) references car(reg_num));

Table created.

SQL>**desc owns**

Name	Null?	Type
DRIVER_ID	NOT NULL	VARCHAR2(10)
REG_NUM	NOT NULL	VARCHAR2(10)

SQL>**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));
Table created.
SQL>**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)

QUERY 2: Enter at least five tuples for each relation

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

SQL>**commit;**
Commit complete.

SQL> select * from person;

DRIVER_ID	NAME	ADDRESS
A01	Richard	Srinivas Nagar
A02	Pradeep	Rajajinagar
A03	Smith	Ashoknagar
A04	Venu	N.R.Colony
A05	John	Hanumanth Nagar

SQL> 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('KA052250','Indica', 1990)

1 row created.

SQL>/
Enter value for reg_num: KA031181
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('KA031181','Lancer', 1957)

1 row created.

SQL>**commit;**

Commit complete.

SQL> select * from car;

```
REG_NUM      MODEL    YEAR
-------------------------- ----------
KA052250   Indica          1990
KA031181   Lancer 1957
KA095477   Toyota  1998
KA053408   Honda   2008
KA041702   Audi            2005
```

SQL> 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(111,'01-JAN-03','Mysore Road')
```

1 row created.

SQL>**commit;**

Commit complete.
SQL> select * from accident;

```
 REPORT_NUM   ACCIDENT_DATE     LOCATION
------------------- ------------ --------------------
 11                01-JAN-03              Mysore Road
    12              02-FEB-04              Southend Circle
 13                21-JAN-03              Bulltemple Road
   14              17-FEB-08              Mysore Road
    15              04-MAR-05              Kanakpura Road
```

SQL> 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.
```

SQL>**commit;**
Commit complete.

SQL> select * from owns;

```
DRIVER_ID   REG_NUM
--------------- ----------
A01               KA052250
A02               KA053408
```

A04 KA031181
A03 KA095477
A05 KA041702

SQL> 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.

SQL>/
Enter value for driver_id: A02
Enter value for reg_num: KA053408
Enter value for report_num: 12
Enter value for damage_amount: 50000
old 1: insert into participated values ('&driver_id','&reg_num', &report_num,& damage_amount)
new 1: insert into participated values('A02','KA053408',12,50000)

1 row created.

SQL>**commit;**
Commit complete.

SQL> select * from participated;

DRIVER_ID	REG_NUM	REPORT_NUM	DAMAGE_AMOUNT
A01	KA052250	11	10000
A02	KA053408	12	50000
A03	KA095477	13	25000
A04	KA031181	14	3000
A05	KA041702	15	5000

QUERY 3:

a) Update the damage amount to 25000 for the car with a specific reg_num (example 'KA053408') for which the accident report number was 12.

SQL> update participated set damage_amount=25000 where reg_num='KA053408' and report_num=12;

1 row updated.

SQL>**commit;**

Commit complete.

SQL>**select * from participated;**

```
DRIVER_ID   REG_NUM  REPORTNUM  DAMAGE_AMOUNT
---------- --------- ---------- ----------
A01        KA052250         11         10000
A02        KA053408         12         25000
A03        KA095477         13         25000
A04        KA031181         14          3000
A05        KA041702         15          5000
```

b) Add a new accident to the database.

SQL>**insert into accident values(16,'15-MAR-08','Domlur');**
1 row created.

SQL>**select * from accident;**

```
 REPORT_NUMACCIDENT_DATE     LOCATION
----------------- ------------  --------------------
 11               01-JAN-03           Mysore Road
 12               02-FEB-04           Southend Circle
 13               21-JAN-03           Bulltemple Road
 14               17-FEB-08           Mysore Road
 15               04-MAR-05           Kanakpura Road
 16               15-MAR-08           Domlur
```

6 rows selected.

QUERY 4: Find the total number of people who owned cars that were involved in accidents in 2008.

SQL>**select count(distinct driver_id) CNT from participated a, accident b where a.report_num=b.report_num and b.accident_date like '%08';**

```
       CNT
----------
         1
```

QUERY 5: Find the number of accidents in which cars belonging to a specific model (example 'Lancer') were involved.

SQL> select count(report_num) CNT from car c,participated p where c.reg_num=p.reg_num and model='Lancer';

```
       CNT
----------
         1
```

ADDITIONAL QUERIES:

1) **LIST THE ENTIRE PARTICIPATED RELATION IN THE DESCENDING ORDER OF DAMAGE AMOUNT.**

2) **FIND THE AVERAGE DAMAGE AMOUNT**

3) **DELETE THE TUPLE WHOSE DAMAGE AMOUNT IS BELOW THE AVERAGE DAMAGE AMOUNT**

4) **LIST THE NAME OF DRIVERS WHOSE DAMAGE IS GREATER THAN THE AVERAGE DAMAGE AMOUNT.**

5) **FIND MAXIMUM DAMAGE AMOUNT.**