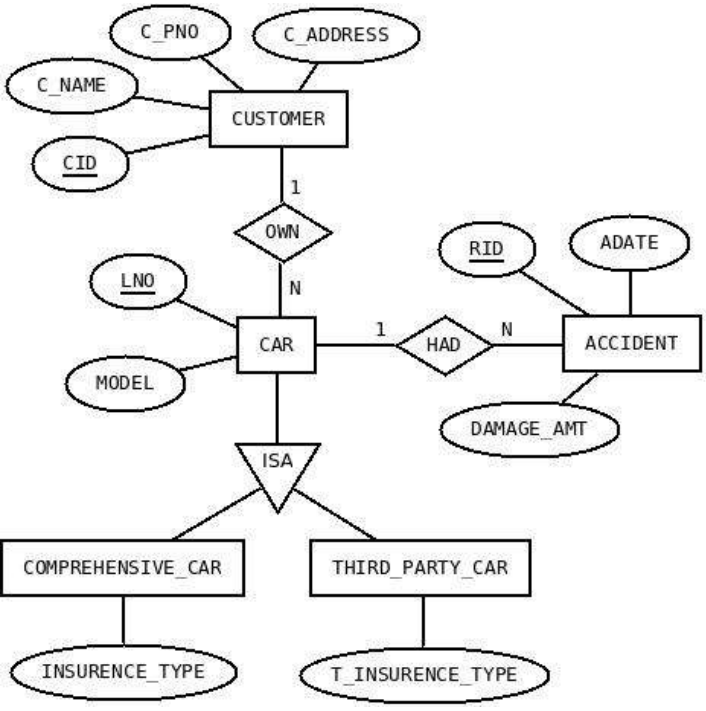
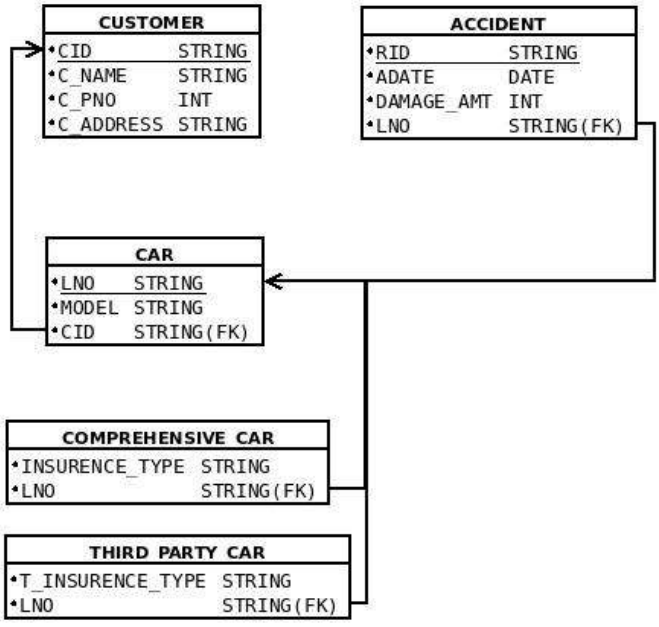

C_PNO
C_ADDRESS
C_NAME
CUSTOMER
CID
1
OWN
N
LNO
CAR
1
HAD
N
RID
ADATE
ACCIDENT
MODEL
DAMAGE_AMT
ISA
COMPREHENSIVE_CAR
THIRD_PARTY_CAR
INSURENCE_TYPE
T_INSURENCE_TYPE


CUSTOMER
CID STRING
C_NAME STRING
C_PNO INT
C_ADDRESS STRING
ACCIDENT
RID STRING
ADATE DATE
DAMAGE_AMT INT
LNO STRING(FK)
CAR
LNO STRING
MODEL STRING
CID STRING(FK)
COMPREHENSIVE CAR
INSURENCE_TYPE STRING
LNO STRING(FK)
THIRD PARTY CAR
T_INSURENCE_TYPE STRING
LNO STRING(FK)

ii. Create tables, populate with data and construct queries (advanced) in SQL to extract information from the car insurance company's database.

```
CREATE TABLE CUSTOMER(
CID VARCHAR2(8) PRIMARY KEY CHECK(CID LIKE 'C%'),
C_NAME VARCHAR2(20) NOT NULL,
C_PNO NUMBER(10),
C_ADDRESS VARCHAR2(20) NOT NULL);
```

DESC CUSTOMER;

```
SQL> @6.sql

Table created.

 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 CID                                       NOT NULL VARCHAR2(8)
 C_NAME                                    NOT NULL VARCHAR2(20)
 C_PNO                                              NUMBER(10)
 C_ADDRESS                                 NOT NULL VARCHAR2(20)
```

```
CREATE TABLE CAR(
LNO VARCHAR2(8) PRIMARY KEY CHECK(LNO LIKE 'L%'),
MODEL VARCHAR2(20) NOT NULL,
CID VARCHAR2(8),
FOREIGN KEY(CID) REFERENCES CUSTOMER(CID) ON DELETE CASCADE);
```

DESC CAR;

```
SQL> @6.sql

Table created.

 Name                                      Null?    Type
 ----------------------------------------- -------- -------------
 LNO                                       NOT NULL VARCHAR2(8)
 MODEL                                     NOT NULL VARCHAR2(20)
 CID                                                VARCHAR2(8)
```

```
CREATE TABLE ACCIDENT(
RNO VARCHAR2(8) PRIMARY KEY CHECK(RNO LIKE 'R%'),
ADATE DATE,
DAMAGE_AMT NUMBER(10,2),
LNO VARCHAR2(8),
FOREIGN KEY(LNO) REFERENCES CAR(LNO) ON DELETE CASCADE);
```

DESC ACCIDENT;

```
SQL> @6.sql

Table created.

 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
-----
 RNO                                       NOT NULL VARCHAR2(8)
 ADATE                                              DATE
 DAMAGE_AMT                                         NUMBER(10,2)
 LNO                                                VARCHAR2(8)
```

CREATE TABLE COMPREHENSIVE_CAR(
INSURENCE_TYPE VARCHAR2(20),
LNO VARCHAR2(8),
FOREIGN KEY(LNO) REFERENCES CAR(LNO) ON DELETE CASCADE);

DESC COMPREHENSIVE_CAR;

```
SQL> @6.sql

Table created.

 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
-----
 INSURENCE_TYPE                                     VARCHAR2(20)
 LNO                                                VARCHAR2(8)
```

CREATE TABLE THIRD_PARTY_CAR(
T_INSURENCE_TYPE VARCHAR2(20),
LNO VARCHAR2(8),
FOREIGN KEY(LNO) REFERENCES CAR(LNO) ON DELETE CASCADE);

DESC THIRD_PARTY_CAR;

```
SQL> @6.sql

Table created.

 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
-----
 T_INSURENCE_TYPE                                   VARCHAR2(20)
 LNO                                                VARCHAR2(8)
```

```
INSERT INTO CUSTOMER VALUES('C1','DIPU','4813','KOLKATA');
INSERT INTO CUSTOMER VALUES('C2','JOY','4814','KOLKATA');
INSERT INTO CUSTOMER VALUES('C3','DEBU','4815','KOLKATA');
INSERT INTO CUSTOMER VALUES('C4','SWAPNA','4816','KOLKATA');
INSERT INTO CUSTOMER VALUES('C5','INDRA','4817','KOLKATA');

SELECT * FROM CUSTOMER;
```

CID	C_NAME	C_PNO	C_ADDRESS
C1	DIPU	4813	KOLKATA
C2	JOY	4814	KOLKATA
C3	DEBU	4815	KOLKATA
C4	SWAPNA	4816	KOLKATA
C5	INDRA	4817	KOLKATA

```
INSERT INTO CAR VALUES('L1','AUDI R8','C1');
INSERT INTO CAR VALUES('L2','PAGANI ZONDA R','C2');
INSERT INTO CAR VALUES('L3','FORD MUSTANG','C3');
INSERT INTO CAR VALUES('L4','FERRARI LAFERRARI','C4');
INSERT INTO CAR VALUES('L5','911 GT2 RS','C5');

SELECT * FROM CAR;
```

LNO	MODEL	CID
L1	AUDI R8	C1
L2	PAGANI ZONDA R	C2
L3	FORD MUSTANG	C3
L4	FERRARI LAFERRARI	C4
L5	911 GT2 RS	C5

```
INSERT INTO ACCIDENT VALUES('R01',TO_DATE('19-03-24','DD-MM-YY'),100000,'L1');
INSERT INTO ACCIDENT VALUES('R02',TO_DATE('20-03-24','DD-MM-YY'),150000,'L2');
INSERT INTO ACCIDENT VALUES('R03',TO_DATE('21-03-24','DD-MM-YY'),200000,'L3');
INSERT INTO ACCIDENT VALUES('R04',TO_DATE('22-03-24','DD-MM-YY'),250000,'L4');
INSERT INTO ACCIDENT VALUES('R05',TO_DATE('23-03-24','DD-MM-YY'),300000,'L5');

SELECT * FROM ACCIDENT;
```

RNO	ADATE	DAMAGE_AMT	LNO
R01	19-03-24	100000	L1
R02	20-03-24	150000	L2
R03	21-03-24	200000	L3
R04	22-03-24	250000	L4
R05	23-03-24	300000	L5

```
INSERT INTO COMPREHENSIVE_CAR VALUES('COMPREHENSIVE1','L1');
INSERT INTO COMPREHENSIVE_CAR VALUES('COMPREHENSIVE2','L2');
INSERT INTO COMPREHENSIVE_CAR VALUES('COMPREHENSIVE3','L3');
INSERT INTO COMPREHENSIVE_CAR VALUES('COMPREHENSIVE4','L4');
INSERT INTO COMPREHENSIVE_CAR VALUES('COMPREHENSIVE5','L5');

SELECT * FROM COMPREHENSIVE_CAR;
```

INSURENCE_TYPE	LNO
COMPREHENSIVE1	L1
COMPREHENSIVE2	L2
COMPREHENSIVE3	L3
COMPREHENSIVE4	L4
COMPREHENSIVE5	L5

```
INSERT INTO THIRD_PARTY_CAR VALUES('THIRD-PARTY-1','L1');
INSERT INTO THIRD_PARTY_CAR VALUES('THIRD-PARTY-2','L2');
INSERT INTO THIRD_PARTY_CAR VALUES('THIRD-PARTY-3','L3');
INSERT INTO THIRD_PARTY_CAR VALUES('THIRD-PARTY-4','L4');
INSERT INTO THIRD_PARTY_CAR VALUES('THIRD-PARTY-5','L5');

SELECT * FROM THIRD_PARTY_CAR;
```

T_INSURENCE_TYPE	LNO
THIRD-PARTY-1	L1
THIRD-PARTY-2	L2
THIRD-PARTY-3	L3
THIRD-PARTY-4	L4
THIRD-PARTY-5	L5

Write and run the following SQL queries for your database:
a.Find the total number of people who owned cars that were involved in accidents in 2010.

SELECT COUNT(C.CID) FROM CUSTOMER C JOIN CAR CA ON CA.CID=C.CID JOIN ACCIDENT A ON A.LNO=CA.LNO WHERE EXTRACT(YEAR FROM A.ADATE)=2010;

```
SQL> @6.sql

COUNT(CID)
----------
         1
```

b.Find the number of accidents in which the cars belonging to “XYZ” were involved.

SELECT COUNT(A.RNO) FROM ACCIDENT A JOIN CAR CA ON CA.LNO=A.LNO WHERE CA.MODEL='PAGANI ZONDA R';

```
SQL> @6.sql

COUNT(RNO)
----------
         1
```

c.Add a new accident to the database; assume any values for required attributes.

INSERT INTO ACCIDENT VALUES('R07',TO_DATE('19-03-25','DD-MM-YY'),20000,'L2');

SELECT * FROM ACCIDENT;

```
SQL> @6.sql

1 row created.


RNO      ADATE    DAMAGE_AMT LNO
-------- -------- ---------- --------
R01      19-03-24     100000 L1
R02      20-03-24     150000 L2
R03      21-03-24     200000 L3
R04      22-03-24     250000 L4
R05      23-03-24     300000 L5
R06      19-03-10     100000 L1
R07      19-03-25      20000 L2

7 rows selected.
```

d.Delete the model ‘Scorpio belonging to “ABC”.

DELETE FROM CAR WHERE MODEL='SCORPIO' AND CID='ABC';

```
SQL> @6.sql

0 rows deleted.
```

e.Update the damage amount for the car with license number “AIBPC2010” in the accident with report number “FIR271” to Rs. 5000.

SELECT * FROM ACCIDENT;

UPDATE ACCIDENT SET DAMAGE_AMT=5000 WHERE LNO='AIBPC2010' AND RNO='FIR271';

SELECT * FROM ACCIDENT;

```
SQL> @6.sql

RNO      ADATE    DAMAGE_AMT LNO
-------- -------- ---------- --------
R01      19-03-24     100000 L1
R02      20-03-24     150000 L2
R03      21-03-24     200000 L3
R04      22-03-24     250000 L4
R05      23-03-24     300000 L5
R06      19-03-10     100000 L1
R07      19-03-25      20000 L2

7 rows selected.


0 rows updated.


RNO      ADATE    DAMAGE_AMT LNO
-------- -------- ---------- --------
R01      19-03-24     100000 L1
R02      20-03-24     150000 L2
R03      21-03-24     200000 L3
R04      22-03-24     250000 L4
R05      23-03-24     300000 L5
R06      19-03-10     100000 L1
R07      19-03-25      20000 L2

7 rows selected.
```

ASSUMPTIONS & JUSTIFICATIONS:-

- A customer can own more than one car. This indicates a one-to-many relationship between the CUSTOMER and the CAR entities.
- A car can be owned by one customer at a time. This reflects the one-to-many relationship between CUSTOMER and CAR entities.
- A car can have multiple accidents. This indicates a one-to-many relationship between CAR and ACCIDENT entities.
- For a particular accident, the record number is alloted for one car only. This reflects a one-to-one relationship between the ACCIDENT and CAR entity.
- A car can be comprehensive or third party depending on the type of insurence it has. This implies a classification of cars based on their insurence typr, with two subtypes Comprehensive car and Third Party car.