**SET 2**

**person (driver\_id, name, address)**

**car (registration number, model, year)**

**accident (report no, date, location)**

**owns (driver\_id, registration number)**

**participated in (driver\_id, registration number, report no, damage\_amount)**

**a) Create the tables and enter at least 5 sets of records in each table created that will help in retrieving data from your database.**

**b) Write optimized queries for the following. No duplicates should be printed in any of the answers. Output should display at least one record set.**

**1. Find the number of people who owned new cars that were involved in accidents in the year 2005 at "Mumbai"**

**2. For every accident that look place in "Kolkata" and on "15-06-2001" retrieve the driver details, and the amount of damage.**

**3. For the "Toyota" belonging to "Huffman", find the accidents that took place in "Delhi" but not in "Pune".**

**4. For every person who owns more than 2 cars, find the details for those cars which incurred a damage of Rs.50000 and above for accidents that took place in 2005.**

**Answer:**

CREATE TABLE person (

driver\_id NUMBER PRIMARY KEY,

name VARCHAR2(100),

address VARCHAR2(100)

);

INSERT INTO person VALUES ( 1,’Huffman’,’Kolkata’);

INSERT INTO person VALUES ( 2,’John’,’Mumbai’);

INSERT INTO person VALUES ( 3,’Jedan’,’Delhi’);

INSERT INTO person VALUES ( 4,’Aman’,’Kolkata’);

INSERT INTO person VALUES ( 5,’Rohit’,’Delhi’);

CREATE TABLE car (

registration\_number NUMBER PRIMARY KEY,

model VARCHAR2(100),

year NUMBER

);

INSERT INTO car VALUES(101 ,’Toyota’,2000);

INSERT INTO car VALUES(102 ,’Jaguar’,2001);

INSERT INTO car VALUES(103 ,’Tata’,2000);

INSERT INTO car VALUES(104 ,’BMW’,1999);

INSERT INTO car VALUES(105 ,’Supra’,2000);

INSERT INTO car VALUES(106,’Taxi’,2002);

INSERT INTO car VALUES(107 ,’Suzuki’,2001);

INSERT INTO car VALUES (108 ,’Honda’,2000);

INSERT INTO car VALUES (109,’RangeRover’,2000);

// We cannot directly write date as an attribute name in Oracle SQL. So write adate

CREATE TABLE accident (

report\_no NUMBER PRIMARY KEY,

adate DATE,

location VARCHAR2(100)

);

INSERT INTO accident VALUES (1001 ,TO\_DATE(’2005-12-15’ ,’YYYY-MM-DD’) ,’Mumbai’);

INSERT INTO accident VALUES (1002 ,TO\_DATE(’2005-10-18’ ,’ YYYY-MM-DD’),’Mumbai’ );

INSERT INTO accident VALUES (1003 ,TO\_DATE(’2001-06-15’ ,’YYYY-MM-DD’) ,’Kolkata’);

INSERT INTO accident VALUES (1004 ,TO\_DATE(’2002-07-18’ ,’YYYY-MM-DD’) ,’Delhi’ );

INSERT INTO accident VALUES (1005 ,TO\_DATE(’2003-08-18’ ,’YYYY-MM-DD’) ,’Pune’);

INSERT INTO accident VALUES (1006 ,TO\_DATE(’2004-08-19’ ,’YYYY-MM-DD’) ,’Delhi’ );

INSERT INTO accident VALUES (1007 ,TO\_DATE(’2005-07-19’ ,’YYYY-MM-DD’),’Kolkata’ );

INSERT INTO accident VALUES (1008 ,TO\_DATE(’2005-09-20’ ,’YYYY-MM-DD’) ,’Kolkata’ );

CREATE TABLE owns (

driver\_id NUMBER REFERENCES person(driver\_id) ON DELETE CASCADE,

registration\_number REFERENCES car(registration\_number) ON DELETE CASCADE

);

INSERT INTO owns VALUES (1 ,101);

INSERT INTO owns VALUES (2 ,102);

INSERT INTO owns VALUES (2 ,103);

INSERT INTO owns VALUES (2 ,104);

INSERT INTO owns VALUES (3,105);

INSERT INTO owns VALUES (3 ,106);

INSERT INTO owns VALUES (3,107);

INSERT INTO owns VALUES (4,108);

INSERT INTO owns VALUES (5,109);

CREATE TABLE participated\_in (

driver\_id NUMBER REFERENCES person(driver\_id) ON DELETE CASCADE,

registration\_number NUMBER REFERENCES car(registration\_number) ON DELETE CASCADE,

report\_no NUMBER REFERENCES accident(report\_no) ON DELETE CASCADE,

damage\_amount NUMBER

);

INSERT INTO participated\_in VALUES (1 , 101 , 1004 , 20000);

INSERT INTO participated\_in VALUES (1 , 101 , 1005 , 10000);

INSERT INTO participated\_in VALUES (2 , 102 , 1006 , 50000);

INSERT INTO participated\_in VALUES (3 , 106 , 1007 , 30000);

INSERT INTO participated\_in VALUES (3 , 107 , 1008 , 50000);

INSERT INTO participated\_in VALUES (4,108,1001,134564);

INSERT INTO participated\_in VALUES (5 ,109 ,1002 ,54544);

INSERT INTO participated\_in VALUES (1,101,1003,56546);

Q1: Find the number of people who owned new cars that were involved in accidents in the year 2005 at "Mumbai"

SELECT count(DISTINCT driver\_id) AS NUMPEOPLE

FROM accident A JOIN participated\_in PIN ON

A.report\_no = PIN.report\_no WHERE

A.location = ’Mumbai’ AND EXTRACT (YEAR FROM A.adate) = 2005;

Q2: For every accident that look place in "Kolkata" and on "15-06-2001" retrieve the driver details, and the amount of damage.

SELECT P.driver\_id , P.name , P.address , PIN.damage\_amount from

person P JOIN participated\_in PIN ON P.driver\_id = PIN.driver\_id

JOIN accident A ON PIN.report\_no = A.report\_no

WHERE A.location =’Kolkata’ AND A.adate = TO\_DATE(’2001-06-15’,’YYYY-MM-DD’);

Q3: For the "Toyota" belonging to "Huffman", find the accidents that took place in "Delhi" but not in "Pune".

SELECT PIN.report\_no from person P JOIN participated\_in PIN

ON P.driver\_id = PIN.driver\_id

JOIN accident A ON PIN.report\_no = A.report\_no

JOIN car C ON PIN.registration\_number = C.registration\_number

WHERE C.model =’Toyota’ AND P.name =’Huffman’ AND A.location =’Delhi’

AND PIN.report\_no NOT IN ( SELECT PIN.report\_no from person P JOIN participated\_in PIN

ON P.driver\_id = PIN.driver\_id

JOIN accident A ON PIN.report\_no = A.report\_no

JOIN car C ON PIN.registration\_number = C.registration\_number

WHERE C.model =’Toyota’ AND P.name =’Huffman’ AND A.location =’Pune’

);

Q4: For every person who owns more than 2 cars, find the details for those cars which incurred a damage of Rs.50000 and above for accidents that took place in 2005.

SELECT O.driver\_id , C.registration\_number , C.model , C.year FROM

person P JOIN owns O ON P.driver\_id = O.driver\_id

JOIN car C ON O.registration\_number = C.registration\_number

JOIN participated\_in PIN ON P.driver\_id = PIN.driver\_id AND O.registration\_number = PIN.registration\_number

JOIN accident A ON PIN.report\_no = A.report\_no

WHERE (SELECT COUNT(registration\_number) FROM owns WHERE driver\_id = P.driver\_id) > 2

AND PIN.damage\_amount >= 50000

AND EXTRACT(YEAR FROM A.adate) = 2005;