

## **DBMS Lab 7**

### **UNION, INTERSECTION, MINUS operators**

#### **Demonstration:**

```
Insert into Dealer(Dealer_ID,Name,Street,City,State,Pin) values
(001,'Ajit','Brigade Road','Bangalore','Karnataka',560001),
(002,'Rudra','Bhashyam Circle','Bangalore','Karnataka',560010),
(003,'Arjun','Bapuji Nagar','Bangalore','Karnataka',560026),
(004,'Mohamad','Chickpet','Bangalore','Karnataka',560053),
(005,'Nirmala','Domlur','Bangalore','Karnataka',560071),
(006,'Raghu','HSR Layout','Bangalore','Karnataka',560102),
(007,'Likith','Hosur Road','Bangalore','Karnataka',560030),
(008,'Kiran','Indira Nagar','Bangalore','Karnataka',560038),
(009,'Sherif','JP Nagar','Bangalore','Karnataka',560078),
(010,'Tanish','Kannur','Bangalore','Karnataka',562149),
(011,'Mahesh','Adyar','Chennai','Karnataka',600020),
(012,'Margaret','Anna Nagar','Chennai','Tamil Nadu',600040),
(013,'Nadish','Broadway','Chennai','Tamil Nadu',600108),
(014,'Virat','Chepak','Chennai','Tamil Nadu',600005),
(015,'Vikram','Defence Colony','Chennai','Tamil Nadu',600032),
(016,'Deepak','Ambewadi','Mumbai','Maharashtra',400004),
(017,'Subash','Cumballa Hill','Mumbai','Maharashtra',400026),
(018,'Sudeep','Goregaon','Mumbai','Maharashtra',400062),
(019,'Farahn','Jacob Circle','Mumbai','Maharashtra',400011),
(020,'Ganish','Mandvi','Mumbai','Maharashtra',400003);
```

```
Insert into SalesPerson(SalesPersonID,Fname,Lname,Dealer_ID) values
(100,'Raghul','Kanna',001),
(101,'Akshay','Kumar',002),
(102,'Anil','Kapoor',015),
(103,'Barath','Kumar',003),
(104,'Smiriti','Bhai',004),
(105,'Rishi','Sunak',005),
(106,'Srihari','Udupa',011),
(107,'Pallavi','Sharma',012),
(108,'Bala','Reddy',013),
(109,'Sindhya','Kapoor',019),
(110,'Suma','Sampat',020);
```

```
Insert into Customer (Cust_ID,FName,LName,Address,Email) values
(201,'Sai','Shankar','Chennai','saishankar@gmail.com'),
(202,'Apoorva','Kishore','Bangalore','apoorvak@gmail.com'),
(203,'Bala','Kumar','Chennai','balakumar@gmail.com'),
(204,'Chethan','Kumar','Kerala','chethankumar@gmail.com'),
(205,'Gowtham','Raman','Bangalore','gowtham@gmail.com');
```

```
Insert into Bike(VIN,Make,Model, Reg_No,Y_O_M,Chasis_No) values
(300,'Honda','CB500X','KA20H2010',2015,'1GNCS18Z3M0115561'),
```

```
(301,'Kawasaki','KLX230','KA56H2344',2017,'1HBGH41JXMN109186'),
(302,'Suzuki','GSX-R1000','TN70A1653',2016,'JYA2UJE0X2A050036'),
(303,'Yamaha','Smax','MH04AT4351',2014,'WYGZZZ5NZJM131396'),
(304,'TVS','Ntorq 125','TN30J5699',2020,'JN3MS37A9PW202929'),
(305,'Mahindra','Duro','MH02BW1620',2013,'MLHNC5110G5200064'),
(306,'Mahindra','Duro','MH02BW1621',2013,'MLHNC5110G5200065');
```

```
Insert into Invoice(SalesPersonID,VIN,Cust_ID,Date,Total_Bill) values
(100,300,201,'2016-04-04',120998.98),
(102,301,202,'2021-09-10',132432.98),
(103,302,203,'2012-10-02',908907.87),
(105,304,204,'2017-03-23',78900.90),
(109,305,205,'2015-12-27',88998.99),
(110,303,201,'2022-01-20',120090.89),
(110,306,201,'2017-03-23',78900.90);
```

```
Insert into
Service_Manager(M_emp_id,F_Name,L_Name,No_of_bike_service)
values (600,'Guru','Prasad',2),
(601,'Kalyan','Bhat',3),
(602,'Jeevan','Kishore',5),
(603,'Anjan','Jain',4),
(604,'Madhan','Raj',6),
(605,'Yashah','Kiran',7);
```

```
Insert into Service_Ticket(Service_ID,VIN,Cust_ID,
Date_Rec,Date_Del,M_emp_id) Values
(400,300,201,'2022-01-23','2022-01-24',601),
(401,301,202,'2022-01-23','2022-01-24',604),
(402,302,203,'2021-02-23','2022-02-27',603),
(403,303,204,'2022-04-10','2022-04-13',605),
(404,304,205,'2022-05-15','2022-05-24',605),
(405,300,203,'2021-12-26','2021-12-27',601);
```

```
Insert into Accessories(P_ID,Description,Qty,Price,Service_ID) values
(700,'Air Filter',1,217.99,400),
(701,'Chain Set',2,1987.99,401),
(702,'Clutch Plate',1,517.99,404),
(703,'Handle Bar',4,2519.99,405),
(704,'Horn',5,1675.78,402),
(705,'Leg Guard',101,6217.99,403);
```

```
Insert into cust_phone(Cust_ID,Phone_no) values
(201,9047223778), (201,8970654327), (202,8903562403),
(203,6784523450),
(203,6547892020), (204,8760001589), (205,9988071233),
(205,9080102030);
```

```
/* Demo UNION */
```

```
/* List of customers in Chennai who bought a bike before 2020 and
customers in Bangalore who bought a bike in/after 2020 */
```

```

select C.Cust_ID,
       C.FName,
       C.LName,
       C.Address,
       I.Date,
       B.Make,
       B.Model
from customer C,
     Invoice I,
     Bike B
where C.Cust_id = I.Cust_ID and
      B.VIN = I.VIN and
      C.address = 'Bangalore' and
      YEAR(I.Date) < 2020

```

```

UNION
select C.Cust_ID,
       C.FName,
       C.LName,
       C.address,
       I.Date,
       B.Make,
       B.Model
from customer C,
     Invoice I,
     Bike B
where C.Cust_id = I.Cust_ID and
      B.VIN = I.VIN and
      C.address = 'Chennai' and
      YEAR(I.Date) >= 2020

```

```

/* Demo UNION ALL */
select Cust_ID,
       FName,
       LName
from customer
where address = 'Bangalore'
UNION ALL
select Cust_ID,
       FName,
       LName
from customer
where address = 'Bangalore'
Order by 1;

```

```

select Cust_ID,
       FName,
       LName
from customer
where address = 'Bangalore'
UNION
select Cust_ID,

```

```

        FName,
        LName
from customer
where address = 'Bangalore';

/* Demo INTERSECT - MySQL doesn't support INTERSECT operator */
/* Simulated using EXISTS */

/* Find customers in Kerala and Chennai with the same last name */

select distinct C1.LName
from customer C1
where C1.address = 'Kerala'
AND EXISTS ( select C2.LName
              from customer C2
              where C2.address = 'Chennai'and
                    C2.LName = C1.LName);

/* Find the bike model owned by customers in Bangalore and in Chennai
*/

select distinct B1.Make,
                B1.Model
from customer C1,
     Bike B1,
     Invoice I1
where C1.address = 'Bangalore' and
     C1.Cust_ID = I1.Cust_ID and
     B1.VIN = I1.VIN AND EXISTS ( select B2.Make,
                                         B2.Model
                                   from customer C2,
                                         Bike B2,
                                         Invoice I2
                                   where C2.address = 'Chennai' and
                                         I2.Cust_id = C2.Cust_ID and
                                         I2.VIN = B2.VIN and
                                         B2.Make = B1.Make and
                                         B2.Model = B1.model);

/* MySQL doesn't support MINUS operator. Simulated using NOT EXISTS.
Some DBMSs support the EXCEPT operator */

/* Find customers in Chennai with last names other than the ones in
Kerala */

select distinct C1.LName
from customer C1
where C1.address = 'Chennai'
AND NOT EXISTS ( select C2.LName
                  from customer C2
                  where C2.address = 'Kerala'and

```

```

        C2.LName = C1.LName);

/* List of Customers who have not serviced their bike in 2022 */

select C.Cust_ID,
       C.FName,
       C.LName,
       C.Address,
       B.Make,
       B.Model,
       B.VIN
from customer C,
     Invoice I,
     Bike B
where C.Cust_id = I.Cust_ID and
      B.VIN = I.VIN and not exists (select VIN
                                     from service_ticket ST
                                     where ST.VIN = B.VIN and
                                            YEAR(ST.Date_rec) = 2022);

```

### Assignment:

1. Find the list of passengers (user\_id, user\_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Oct 2021 and Aug 2022
2. Find the list of passengers (user\_id, user\_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Oct 2021 and also during Aug 2022
3. Find the list of passengers (user\_id, user\_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Aug 2022 and not in Oct 2021
4. Find the list of passengers (user\_id, user\_type, First name and last name) who have traveled from Bengaluru to Chennai and returned to Bengaluru within a week.
5. Find the list of passengers (user\_id, user\_type, First name and last name) who have traveled from Bengaluru to Chennai and did not return to Bengaluru (in other words, only one way travel from Bengaluru to Chennai)

```

/* Data needed for the assignment */

```

```

INSERT INTO ticket (PNR, Train_No, Travel_date, Passenger_id,
arrival_time, departure_time, Train_Type, compartment_type,
compartment_No, age, arrival, departure)
VALUES ('PNR021', 62621, '2021-10-22', 'USR_008', '20:30:00',
'16:00:00', 'Superfast', 'I Class', 'F01', null, 'Chennai',
'Bengaluru' );

```

```

update train set source = trim(source), destination =
trim(destination);

```

