UNION,INTERSECT,MINUS

(1) With the examples of your choice, demonstrate the following Set Operations:

- UNION

INPUT:-

```
1  CREATE TABLE Names(
2       First_name CHAR(50) NOT NULL,
3       Last_name CHAR(50) NOT NULL,
4       Email_ID VARCHAR(100) NOT NULL
5  );
6  INSERT INTO Names VALUES('Rama','Gour','ramagour1222@gmail.com');
7  INSERT INTO Names VALUES('Rajesh','Gour','gourrajesh169@gmail.com');
8  INSERT INTO Names VALUES('Jaanvi','Gour','gourrajesh1998@gmail.com');
9  SELECT * FROM Names;
10
11 CREATE TABLE More_details(
12      First_name CHAR(50) NOT NULL,
13      Age NUMBER(25) NOT NULL,
14      Occupation CHAR(50) NOT NULL
15 );
16 INSERT INTO More_details VALUES('Ria','43','Teacher');
17 INSERT INTO More_details VALUES('Neha','55','Business');
18 INSERT INTO More_details VALUES('Isha','21','Student');
19 SELECT * FROM More_details;
20
21 SELECT First_name FROM Names
22 UNION
23 SELECT First_name FROM More_details;
```

OUTPUT:-

FIRST_NAME	LAST_NAME	EMAIL_ID
Rama	Gour	ramagour1222@gmail.com
Rajesh	Gour	gourrajesh169@gmail.com
Jaanvi	Gour	gourrajesh1998@gmail.com

FIRST_NAME	AGE	OCCUPATION
Ria	43	Teacher
Neha	55	Business
Isha	21	Student

FIRST_NAME
Isha
Jaanvi
Neha
Rajesh
Rama
Ria

- UNION ALL

INPUT:-

```
CREATE TABLE Names(
     First_name CHAR(50) NOT NULL,
     Last_name CHAR(50) NOT NULL
);
INSERT INTO Names VALUES('Rama','Gour');
INSERT INTO Names VALUES('Rajesh','Gour');
INSERT INTO Names VALUES('Jaanvi','Gour');
SELECT * FROM Names;

CREATE TABLE More_details(
     First_name CHAR(50) NOT NULL,
     Last_name CHAR(50) NOT NULL
);
INSERT INTO More_details VALUES('Ria','Babbar');
INSERT INTO More_details VALUES('Neha','Sharma');
INSERT INTO More_details VALUES('Isha','Gaur');
SELECT * FROM More_details;

SELECT Last_name FROM Names
UNION ALL
SELECT Last_name FROM More_details;
```

OUTPUT:-

FIRST_NAME	LAST_NAME
Rama	Gour
Rajesh	Gour
Jaanvi	Gour

FIRST_NAME	LAST_NAME
Ria	Babbar
Neha	Sharma
Isha	Gaur

LAST_NAME
Gour
Gour
Gour
Babbar
Sharma
Gaur

- INTERSECT

INPUT:-

```
CREATE TABLE Customers(
      ID NUMBER(25) NOT NULL,
      Name CHAR(50) NOT NULL,
      Age NUMBER(25) NOT NULL,
      Adress CHAR(50) NOT NULL,
      Salary NUMBER(25)
);
INSERT INTO Customers VALUES('1','Rama','45','Sahibabad','40000');
INSERT INTO Customers VALUES('2','Rajesh','55','Ghaziabad','30000');
INSERT INTO Customers VALUES('3','Jaanvi','21','Noida','45000');
SELECT * FROM Customers;
CREATE TABLE Orders(
      OID NUMBER(25) NOT NULL,
      Customer_ID NUMBER(25) NOT NULL,
      Amount NUMBER(25)
);
INSERT INTO Orders VALUES('10','1','2300');
INSERT INTO Orders VALUES('21','2','4500');
INSERT INTO Orders VALUES('33','3','1200');
SELECT * FROM Orders;

FROM Customers
   LEFT JOIN Orders
   ON Customers.ID = Orders.Customer_ID;
INTERSECT
   SELECT  ID, Name, Amount
   FROM Customers
   RIGHT JOIN Orders
   ON Customers.ID = Orders.Customer_ID;
```

OUTPUT:-

ID	NAME	AGE	ADRESS	SALARY
1	Rama	45	Sahibabad	40000
2	Rajesh	55	Ghaziabad	30000
3	Jaanvi	21	Noida	45000

OID	CUSTOMER_ID	AMOUNT
10	1	2300
21	2	4500
33	3	1200

ID	NAME	AMOUNT
1	Rama	2300
2	Rajesh	4500
3	Jaanvi	1200

- MINUS

INPUT:-

```sql
CREATE TABLE TABLE1(
      NAME CHAR(25),
      ADDRESS CHAR(25),
      AGE NUMBER(25),
      GRADE NUMBER(25)
);
INSERT INTO TABLE1 VALUES('Ria','Jammu','21','10');
INSERT INTO TABLE1 VALUES('Neha','Uttarpradesh','20','12');
INSERT INTO TABLE1 VALUES('Ajitesh','Punjab','12','11');
INSERT INTO TABLE1 VALUES('Arjun','Delhi','19','12');
SELECT * FROM TABLE1;
CREATE TABLE TABLE2(
      NAME CHAR(25),
      AGE NUMBER(25),
      PHONE NUMBER(25),
      GRADE NUMBER(25)
);
INSERT INTO TABLE2 VALUES('Rama','34','98998877','12');
INSERT INTO TABLE2 VALUES('Rajesh','55','9899866','11');
INSERT INTO TABLE2 VALUES('Jaanvi','21','98998855','11');
INSERT INTO TABLE2 VALUES('Ayush','21','98998844','10');
SELECT * FROM TABLE2;

SELECT NAME, AGE , GRADE
FROM TABLE1
MINUS
SELECT NAME, AGE, GRADE
FROM TABLE2
```

OUTPUT:-

NAME	ADDRESS	AGE	GRADE
Ria	Jammu	21	10
Neha	Uttarpradesh	20	12
Ajitesh	Punjab	12	11
Arjun	Delhi	19	12

NAME	AGE	PHONE	GRADE
Rama	34	98998877	12
Rajesh	55	9899866	11
Jaanvi	21	98998855	11
Ayush	21	98998844	10

NAME	AGE	GRADE
Ajitesh	12	11
Arjun	19	12
Neha	20	12
Ria	21	10

(2) Write the SQL queries to accomplish the following tasks:

a) Create the following 3 tables for an online store. The primary keys are underlined, and the foreign keys are shown in italic. You can personalize the tables if needed to be fit to store the information you need for the products you sell on your website.

PRODUCT(<u>ProductID</u>, PName, PDescription, Price) – this table records information about each product.

SALE(<u>SaleID</u>, DeliveryAddress, CreditCard) – this table records information about each sale/transaction.

SALEITEM(*SaleID, ProductID,* Quantity) – this table records information about which products were sold in each sale/transaction

INPUT:-

```
CREATE TABLE PRODUCT(
    ProductID VARCHAR(50) PRIMARY KEY,
    PName VARCHAR(50) NOT NULL,
    PDescription VARCHAR(50),
    Price VARCHAR(50)
);
CREATE TABLE SALE(
    SaleID VARCHAR(50) PRIMARY KEY,
    DeliveryAddress CHAR(50),
    CreditCard VARCHAR(50)
);
CREATE TABLE SALEITEM (
    SaleID VARCHAR(50) FOREIGN KEY REFERENCES SALE(SaleID),
    ProductID VARCHAR(50) FOREIGN KEY REFERENCES PRODUCT(ProductID),
    Quantity INT
);
```

OUTPUT:-

```
Commands completed successfully.

Completion time: 2021-11-28T10:24:04.5831332+05:30
```

b) Insert 5 records in each table.

INPUT:-

```
CREATE TABLE PRODUCT(
    ProductID VARCHAR(50) PRIMARY KEY,
    PName VARCHAR(50) NOT NULL,
    PDescription VARCHAR(50),
    Price VARCHAR(50)
);
INSERT INTO PRODUCT VALUES('P01','Foundation','Face Makeup','1500');
INSERT INTO PRODUCT VALUES('P02','Compact','Face Makeup','2500');
INSERT INTO PRODUCT VALUES('P03','Highlighter','Face Makeup','3000');
INSERT INTO PRODUCT VALUES('P04','Eye liner','Eye Makeup','500');
INSERT INTO PRODUCT VALUES('P05','Nail Paint','Nail Makeup','550');
SELECT * FROM PRODUCT;
```

OUTPUT:-

	ProductID	PName	PDescription	Price
1	P01	Foundation	Face Makeup	1500
2	P02	Compact	Face Makeup	2500
3	P03	Highlighter	Face Makeup	3000
4	P04	Eye liner	Eye Makeup	500
5	P05	Nail Paint	Nail Makeup	550

INPUT:-

```
CREATE TABLE SALE(
    SaleID VARCHAR(50) PRIMARY KEY,
    DeliveryAddress CHAR(50),
    CreditCard VARCHAR(50)
);
INSERT INTO SALE VALUES('S01','Ahemdabad','VISA');
INSERT INTO SALE VALUES('S02','Delhi','Mastercard');
INSERT INTO SALE VALUES('S03','Tamil Nadu','VISA');
INSERT INTO SALE VALUES('S04','Chennai','VISA');
INSERT INTO SALE VALUES('S05','Orissa','Mastercard');
SELECT * FROM SALE;
```

OUTPUT:-

	SaleID	DeliveryAddress	CreditCard
1	S01	Ahemdabad	VISA
2	S02	Delhi	Mastercard
3	S03	Tamil Nadu	VISA
4	S04	Chennai	VISA
5	S05	Orissa	Mastercard

INPUT:-

```
CREATE TABLE SALEITEM (
    SaleID VARCHAR(50) FOREIGN KEY REFERENCES SALE(SaleID),
    ProductID VARCHAR(50) FOREIGN KEY REFERENCES PRODUCT(ProductID),
    Quantity INT
);
INSERT INTO SALEITEM VALUES('S01','P02','22');
INSERT INTO SALEITEM VALUES('S03','P01','21');
INSERT INTO SALEITEM VALUES('S05','P03','34');
INSERT INTO SALEITEM VALUES('S04','P05','45');
INSERT INTO SALEITEM VALUES('S02','P04','26');
SELECT * FROM SALEITEM;
```

OUTPUT:-

	SaleID	ProductID	Quantity
1	S01	P02	22
2	S03	P01	21
3	S05	P03	34
4	S04	P05	45
5	S02	P04	26

c) List all records from the PRODUCT, SALE and SALEITEM table.

OUTPUT:-

	ProductID	PName	PDescription	Price
1	P01	Foundation	Face Makeup	1500
2	P02	Compact	Face Makeup	2500
3	P03	Highlighter	Face Makeup	3000
4	P04	Eye liner	Eye Makeup	500
5	P05	Nail Paint	Nail Makeup	550

	SaleID	DeliveryAddress	CreditCard
1	S01	Ahemdabad	VISA
2	S02	Delhi	Mastercard
3	S03	Tamil Nadu	VISA
4	S04	Chennai	VISA
5	S05	Orissa	Mastercard

	SaleID	ProductID	Quantity
1	S01	P02	22
2	S03	P01	21
3	S05	P03	34
4	S04	P05	45
5	S02	P04	26

d) Update the price of one of your products in the PRODUCT table to cost Rs.100 more than original price.

INPUT:-

```
CREATE TABLE PRODUCT(
    ProductID VARCHAR(50) PRIMARY KEY,
    PName VARCHAR(50) NOT NULL,
    PDescription VARCHAR(50),
    Price INT
);
INSERT INTO PRODUCT VALUES('P01','Foundation','Face Makeup','1500');
INSERT INTO PRODUCT VALUES('P02','Compact','Face Makeup','2500');
INSERT INTO PRODUCT VALUES('P03','Highlighter','Face Makeup','3000');
INSERT INTO PRODUCT VALUES('P04','Eye liner','Eye Makeup','500');
INSERT INTO PRODUCT VALUES('P05','Nail Paint','Nail Makeup','550');
SELECT * FROM PRODUCT;
UPDATE PRODUCT
set Price = Price + (Price * 20.0 / 100.0)
where PName = ('Eye liner')
SELECT * FROM PRODUCT;
```

OUTPUT:-

	ProductID	PName	PDescription	Price
1	P01	Foundation	Face Makeup	1500
2	P02	Compact	Face Makeup	2500
3	P03	Highlighter	Face Makeup	3000
4	P04	Eye liner	Eye Makeup	500
5	P05	Nail Paint	Nail Makeup	550

	ProductID	PName	PDescription	Price
1	P01	Foundation	Face Makeup	1500
2	P02	Compact	Face Makeup	2500
3	P03	Highlighter	Face Makeup	3000
4	P04	Eye liner	Eye Makeup	600
5	P05	Nail Paint	Nail Makeup	550

e) Delete all products with price higher than 10,000 from your PRODUCT table.
(Hint: You can insert such a product first and then use this command to delete it for testing purposes)

INPUT:-

```
CREATE TABLE PRODUCT(
    ProductID VARCHAR(50) PRIMARY KEY,
    PName VARCHAR(50) NOT NULL,
    PDescription VARCHAR(50),
    Price INT
);
INSERT INTO PRODUCT VALUES('P01','Foundation','Face Makeup','15000');
INSERT INTO PRODUCT VALUES('P02','Compact','Face Makeup','2500');
INSERT INTO PRODUCT VALUES('P03','Highlighter','Face Makeup','30000');
INSERT INTO PRODUCT VALUES('P04','Eye liner','Eye Makeup','500');
INSERT INTO PRODUCT VALUES('P05','Nail Paint','Nail Makeup','550');
SELECT * FROM PRODUCT;
DELETE FROM PRODUCT
  where Price > '10000';
SELECT * FROM PRODUCT;
```

OUTPUT:-

	ProductID	PName	PDescription	Price
1	P01	Foundation	Face Makeup	15000
2	P02	Compact	Face Makeup	2500
3	P03	Highlighter	Face Makeup	30000
4	P04	Eye liner	Eye Makeup	500
5	P05	Nail Paint	Nail Makeup	550

	ProductID	PName	PDescription	Price
1	P02	Compact	Face Makeup	2500
2	P04	Eye liner	Eye Makeup	500
3	P05	Nail Pa...	Nail Makeup	550