

Lab Practice

CREATE THE TABLES GIVEN BELOW. INSERT TUPLES SUCH THAT ALL QUERIES SHOULD GIVE PROPER OUTPUT.

1. Create the following tables:

a. Customer Master Table: Cust

Attribute Name	Data Type	Constraints
custid	varchar(3)	Primary Key
Lname	Varchar(15)	
Fname	Varchar(15)	
area	Varchar(2)	
phoneno	numeric(8,0)	

b. Movies Master Table: Movie

Attribute Name	Data Type	Constraints
Mvno	Numeric(2,0)	Primary Key
title	Varchar(25)	
type	Varchar(10)	
star	Varchar(25)	
price	Numeric(8,2)	

c. Invoice transaction Table : Invoice

Attribute Name	Data Type	Constraints
Invno	Varchar(3)	Primary Key
Mvno	Number(2)	Foreign key movie(mvno)
custid	Varchar(3)	Foreign key cust(custid)
issueDate	Date	
retDate	Date	

2. Insert the following data into the tables created

Table:Cust

custid	Lname	Fname	Area	PhoneNo
A01	Bayross	Ivan	sa	6125467
A02	Saitwal	Vandana	mu	5560379
A03	Jaguste	Pramada	da	4563891
A04	Navindgi	Basu	ba	6125401
A05	Sreedhar	Ravi	va	NULL
A06	NULL	Rukmini	gh	5125274

Table:Movie

mvno	title	type	star	price
1	Bloody Vengeance	action	Jackie Chan	100.00
2	The Firm	thriller	Tom cruise	200.00
3	Pretty Woman	romance	Richard Gere	150.00
4	Home Alone	Comedy	Macaulay Culkin	150.55
5	The Fugitive	Thriller	Harrison Ford	200.00
6	Coma	Suspense	Michael Douglas	100.00
7	Dracula	Horror	Gary Oldman	150.25

8	Quick change	Comedy	Bill Murray	100.00
9	Gone with the wind	Drama	Clarke Gable	200.00
10	Carry on Doctor	Comedy	Leslie Phillips	100.00

Table:Invoice

invno	mvno	custid	issueDate	retDate
i01	4	A01	23-jul-2012	25-jul-2012
i02	3	A02	12-aug-2012	15-aug-2012
i03	1	A02	15-aug-2012	18-aug-2012
i04	6	A03	10-sep-2012	13-sep-2012
i05	7	A04	05-aug-2012	08-aug-2012
i06	2	A06	18-sep-2012	20-sep-2012
i07	9	A05	07-jul-2012	10-jul-2012
i08	9	A01	11-aug-2012	14-aug-2012
i09	5	A03	06-jul-2012	09-jul-2012
i10	8	A06	03-sep-2012	06-sep-2012

```

CREATE TABLE Cust (
    custid VARCHAR(3) PRIMARY KEY,
    lname VARCHAR(15),
    fname VARCHAR(15),
    area VARCHAR(2),
    phoneno NUMERIC(8,0)
);

INSERT INTO Cust VALUES
('A01', 'Bayross', 'Ivan', 'sa', 6125467),
('A02', 'Saitwal', 'Vandana', 'mu', 5560379),
('A03', 'Jaguste', 'Pramada', 'da', 4563891),
('A04', 'Navindgi', 'Basu', 'ba', 6125401),
('A05', 'Sreedhar', 'Ravi', 'va', NULL),
('A06', NULL, 'Rukmini', 'gh', 5125274);

CREATE TABLE Movie (
    mvno NUMERIC(2,0) PRIMARY KEY,
    title VARCHAR(25),
    type VARCHAR(10),
    star VARCHAR(25),
    price NUMERIC(8,2)
);

INSERT INTO Movie VALUES
(1, 'Bloody Vengeance', 'action', 'Jackie Chan', 100.00),
(2, 'The Firm', 'thriller', 'Tom cruise', 200.00),
(3, 'Pretty Woman', 'romance', 'Richard Gere', 150.00),
(4, 'Home Alone', 'Comedy', 'Macaulay Culkin', 150.55),
(5, 'The Fugitive', 'Thriller', 'Harrison Ford', 200.00),
(6, 'Coma', 'Suspense', 'Michael Douglas', 100.00),
(7, 'Dracula', 'Horror', 'Gary Oldman', 150.25),
(8, 'Quick change', 'Comedy', 'Bill Murray', 100.00),
(9, 'Gone with the wind', 'Drama', 'Clarke Gable', 200.00),
(10, 'Carry on Doctor', 'Comedy', 'Leslie Phillips', 100.00);

CREATE TABLE Invoice (
    invno VARCHAR(3) PRIMARY KEY,
    mvno NUMERIC(2,0),
    custid VARCHAR(3),
    issueDate DATE,
    retDate DATE,
    FOREIGN KEY (mvno) REFERENCES Movie(mvno),
    FOREIGN KEY (custid) REFERENCES Cust(custid)
);

INSERT INTO Invoice VALUES
('i01', 4, 'A01', TO_DATE('23-jul-2012', 'DD-MON-YYYY'), TO_DATE('25-jul-2012', 'DD-MON-YYYY')),
('i02', 3, 'A02', TO_DATE('12-aug-2012', 'DD-MON-YYYY'), TO_DATE('15-aug-2012', 'DD-MON-YYYY')),
('i03', 1, 'A02', TO_DATE('15-aug-2012', 'DD-MON-YYYY'), TO_DATE('18-aug-2012', 'DD-MON-YYYY')),
('i04', 6, 'A03', TO_DATE('10-sep-2012', 'DD-MON-YYYY'), TO_DATE('13-sep-2012', 'DD-MON-YYYY')),
('i05', 7, 'A04', TO_DATE('05-aug-2012', 'DD-MON-YYYY'), TO_DATE('08-aug-2012', 'DD-MON-YYYY')),
('i06', 2, 'A06', TO_DATE('18-sep-2012', 'DD-MON-YYYY'), TO_DATE('20-sep-2012', 'DD-MON-YYYY')),
('i07', 9, 'A05', TO_DATE('07-jul-2012', 'DD-MON-YYYY'), TO_DATE('10-jul-2012', 'DD-MON-YYYY')),
('i08', 9, 'A01', TO_DATE('11-aug-2012', 'DD-MON-YYYY'), TO_DATE('14-aug-2012', 'DD-MON-YYYY')),
('i09', 5, 'A03', TO_DATE('06-jul-2012', 'DD-MON-YYYY'), TO_DATE('09-jul-2012', 'DD-MON-YYYY')),
('i10', 8, 'A06', TO_DATE('03-sep-2012', 'DD-MON-YYYY'), TO_DATE('06-sep-2012', 'DD-MON-YYYY'));

```

3. Write Query statements for the following

- Find out the names of all customers.

```
SELECT Fname, Lname FROM Cust;
```

	fname character varying (15)	lname character varying (15)
1	Ivan	Bayross
2	Vandana	Saitwal
3	Pramada	Jaguste
4	Basu	Navindgi
5	Ravi	Sreedhar
6	Rukmini	[null]

- Print the entire customer table.

```
SELECT * FROM Cust;
```

	custid [PK] character varying (3)	lname character varying (15)	fname character varying (15)	area character varying (2)	phoneno numeric (8)
1	A01	Bayross	Ivan	sa	6125467
2	A02	Saitwal	Vandana	mu	5560379
3	A03	Jaguste	Pramada	da	4563891
4	A04	Navindgi	Basu	ba	6125401
5	A05	Sreedhar	Ravi	va	[null]
6	A06	[null]	Rukmini	gh	5125274

- Retrieve the list of fname and the area of all the customers.

```
SELECT Fname, area FROM Cust;
```

	fname character varying (15)	area character varying (2)
1	Ivan	sa
2	Vandana	mu
3	Pramada	da
4	Basu	ba
5	Ravi	va
6	Rukmini	gh

- List the various movie types available from the movie title.

```
SELECT DISTINCT type FROM Movie;
```

	type character varying (10)
1	Thriller
2	action
3	Comedy
4	thriller
5	Drama
6	Horror
7	Suspense
8	romance

- Find the names of all customers having 'a' in the second letter in their fname

```
SELECT Fname FROM Cust WHERE SUBSTR(Fname,2,1) = 'a';
```

	fname character varying (15)
1	Vandana
2	Basu
3	Ravi

6. Find the Lname of all customers that begin with 'S' or 'J'

```
SELECT Lname FROM Cust WHERE Lname LIKE 'S%' OR Lname LIKE 'J%';
```

	Lname character varying (15)
1	Saitwal
2	Jaguste
3	Sreedhar

7. Find the Lname of all customers that is between 'B' and 'S'

```
SELECT Lname FROM Cust WHERE Lname BETWEEN 'B' AND 'S';
```

	Lname character varying (15)
1	Bayross
2	Jaguste
3	Navindgi

8. Find out the customers who stay in an area whose second letter is 'a'.

```
SELECT * FROM Cust WHERE SUBSTR(area,2,1) = 'a';
```

	custid [PK] character varying (3)	Lname character varying (15)	fname character varying (15)	area character varying (2)	phoneno numeric (8)
1	A01	Bayross	Ivan	sa	6125467
2	A03	Jaguste	Pramada	da	4563891
3	A04	Navindgi	Basu	ba	6125401
4	A05	Sreedhar	Ravi	va	[null]

9. Find the list of all customers who stay in area 'ba' or area 'mu' or area 'gh'.

```
SELECT * FROM Cust WHERE area IN ('ba', 'mu', 'gh');
```

	custid [PK] character varying (3)	Lname character varying (15)	fname character varying (15)	area character varying (2)	phoneno numeric (8)
1	A02	Saitwal	Vandana	mu	5560379
2	A04	Navindgi	Basu	ba	6125401
3	A06	[null]	Rukmini	gh	5125274

10. Print the list of customers whose phone numbers are greater than the value 5550000.

```
SELECT * FROM Cust WHERE phoneno > 5550000;
```

	custid [PK] character varying (3)	Lname character varying (15)	fname character varying (15)	area character varying (2)	phoneno numeric (8)
1	A01	Bayross	Ivan	sa	6125467
2	A02	Saitwal	Vandana	mu	5560379
3	A04	Navindgi	Basu	ba	6125401

11. Print all the information from invoice table of customers who have been issued movies in the month of September.

```
SELECT * FROM Invoice WHERE TO_CHAR(issueDate, 'MON') = 'SEP';
```

	invno [PK] character varying (3)	mvno numeric (2)	custid character varying (3)	issuedate date	retdate date
1	i04	6	A03	2012-09-10	2012-09-13
2	i06	2	A06	2012-09-18	2012-09-20
3	110	8	A06	2012-09-03	2012-09-06

12. Display the invoice table information for custid 'A01' and 'A02'.

```
SELECT * FROM Invoice WHERE custid IN ('A01', 'A02');
```

	invno [PK] character varying (3)	mvno numeric (2)	custid character varying (3)	issuedate date	retdate date
1	i01	4	A01	2012-07-23	2012-07-25
2	i02	3	A02	2012-08-12	2012-08-15
3	i03	1	A02	2012-08-15	2012-08-18
4	i08	9	A01	2012-08-11	2012-08-14

13. Find the movies of type “action” and “Comedy”

```
SELECT * FROM Movie WHERE LOWER(type) IN ('action', 'comedy');
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)
1	1	Bloody Vengeance	action	Jackie Chan	100.00
2	4	Home Alone	Comedy	Macaulay Culkin	150.55
3	8	Quick change	Comedy	Bill Murray	100.00
4	10	Carry on Doctor	Comedy	Leslie Phillips	100.00

14. Find the movies whose price is greater than 150 and less than or equal to 200.

```
SELECT * FROM Movie WHERE price > 150 AND price <= 200;
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)
1	2	The Firm	thriller	Tom cruise	200.00
2	4	Home Alone	Comedy	Macaulay Culkin	150.55
3	5	The Fugitive	Thriller	Harrison Ford	200.00
4	7	Dracula	Horror	Gary Oldman	150.25
5	9	Gone with the wind	Drama	Clarke Gable	200.00

15. Find the movies that cost more than 159 and also find the new cost as original cost* 15

```
SELECT *, price*15 AS new_cost FROM Movie WHERE price > 159;
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)	new_cost numeric
1	2	The Firm	thriller	Tom cruise	200.00	3000.00
2	5	The Fugitive	Thriller	Harrison Ford	200.00	3000.00
3	9	Gone with the wind	Drama	Clarke Gable	200.00	3000.00

16. Rename the new column in the above query as new price,

```
SELECT *, price*15 AS "new price" FROM Movie WHERE price > 159;
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)	new price numeric
1	2	The Firm	thriller	Tom cruise	200.00	3000.00
2	5	The Fugitive	Thriller	Harrison Ford	200.00	3000.00
3	9	Gone with the wind	Drama	Clarke Gable	200.00	3000.00

17. List the movies in sorted order of their titles.

```
SELECT * FROM Movie ORDER BY title;
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)
1	1	Bloody Vengeance	action	Jackie Chan	100.00
2	10	Carry on Doctor	Comedy	Leslie Phillips	100.00
3	6	Coma	Suspense	Michael Douglas	100.00
4	7	Dracula	Horror	Gary Oldman	150.25
5	9	Gone with the wind	Drama	Clarke Gable	200.00
6	4	Home Alone	Comedy	Macaulay Culkin	150.55
7	3	Pretty Woman	romance	Richard Gere	150.00
8	8	Quick change	Comedy	Bill Murray	100.00
9	2	The Firm	thriller	Tom cruise	200.00
10	5	The Fugitive	Thriller	Harrison Ford	200.00

18. List the movies in the sorted order of type,title

```
SELECT * FROM Movie ORDER BY type, title;
```

	mvno [PK] numeric (2)	title character varying (25)	type character varying (10)	star character varying (25)	price numeric (8,2)
1	1	Bloody Vengeance	action	Jackie Chan	100.00
2	10	Carry on Doctor	Comedy	Leslie Phillips	100.00
3	4	Home Alone	Comedy	Macaulay Culkin	150.55
4	8	Quick change	Comedy	Bill Murray	100.00
5	9	Gone with the wind	Drama	Clarke Gable	200.00
6	7	Dracula	Horror	Gary Oldman	150.25
7	3	Pretty Woman	romance	Richard Gere	150.00
8	6	Coma	Suspense	Michael Douglas	100.00
9	2	The Firm	thriller	Tom cruise	200.00
10	5	The Fugitive	Thriller	Harrison Ford	200.00

19. Print the names and types of all the movie except horror movies.

```
SELECT title, type FROM Movie WHERE LOWER(type) <> 'horror';
```

	title character varying (25)	type character varying (10)
1	Bloody Vengeance	action
2	The Firm	thriller
3	Pretty Woman	romance
4	Home Alone	Comedy
5	The Fugitive	Thriller
6	Coma	Suspense
7	Quick change	Comedy
8	Gone with the wind	Drama
9	Carry on Doctor	Comedy

20. Calculate the square root of price of each movie.

```
SELECT title, SQRT(price) AS sqrt_price FROM Movie;
```

	title character varying (25)	sqrt_price numeric
1	Bloody Vengeance	10.000000000000000
2	The Firm	14.142135623730950
3	Pretty Woman	12.247448713915890
4	Home Alone	12.269881825021788
5	The Fugitive	14.142135623730950
6	Coma	10.000000000000000
7	Dracula	12.257650672131263
8	Quick change	10.000000000000000
9	Gone with the wind	14.142135623730950
10	Carry on Doctor	10.000000000000000

21. Display the type and the average price of each movie type.

```
SELECT type, AVG(price) AS avg_price FROM Movie GROUP BY type;
```

	type character varying (10)	avg_price numeric
1	Thriller	200.000000000000000
2	action	100.000000000000000
3	Comedy	116.850000000000000
4	thriller	200.000000000000000
5	Drama	200.000000000000000
6	Horror	150.250000000000000
7	Suspense	100.000000000000000
8	romance	150.000000000000000

22. Try out: select * from movie group by(type);
 23. Try out: select count(mvno) from movie where count(mvno)>2;
 24. Find the name and movie of the customer who have issued a movie.

```
SELECT c.Fname, c.Lname, m.title
FROM Cust c
JOIN Invoice i ON c.custid = i.custid
JOIN Movie m ON i.mvno = m.mvno;
```

	fname character varying (15)	lname character varying (15)	title character varying (25)
1	Ivan	Bayross	Home Alone
2	Vandana	Saitwal	Pretty Woman
3	Vandana	Saitwal	Bloody Vengeance
4	Pramada	Jaguste	Coma
5	Basu	Navindgi	Dracula
6	Rukmini	[null]	The Firm
7	Ravi	Sreedhar	Gone with the wind
8	Ivan	Bayross	Gone with the wind
9	Pramada	Jaguste	The Fugitive
10	Rukmini	[null]	Quick change

25. List the names, areas and cust - id of customers without phone numbers.

```
SELECT Fname, area, custid FROM Cust WHERE phoneno IS NULL;
```

	fname character varying (15)	area character varying (2)	custid [PK] character varying (3)
1	Ravi	va	A05

26. Delete all the records having return date before 10th July'93

```
DELETE FROM Invoice WHERE retDate < TO_DATE('10-jul-1993','DD-MON-YYYY');
```

27. Change the area of cust – id 'a05' to 'vs'.

```
UPDATE Cust SET area = 'vs' WHERE custid = 'A05';
```

28. Select the title, custid, mvno for all the movies that are issued.

```
SELECT m.title, i.custid, i.mvno  
FROM Invoice i  
JOIN Movie m ON i.mvno = m.mvno;
```

	title character varying (25)	custid character varying (3)	mvno numeric (2)
1	Home Alone	A01	4
2	Pretty Woman	A02	3
3	Bloody Vengeance	A02	1
4	Coma	A03	6
5	Dracula	A04	7
6	The Firm	A06	2
7	Gone with the wind	A05	9
8	Gone with the wind	A01	9
9	The Fugitive	A03	5
10	Quick change	A06	8

29. Display the month (in alphabets) in which customer are supposed to return the movies.

```
SELECT invno, TO_CHAR(retDate, 'Month') AS return_month FROM Invoice;
```

	invno [PK] character varying (3)	return_month text
1	i01	July
2	i02	August
3	i03	August
4	i04	September
5	i05	August
6	i06	September
7	i07	July
8	i08	August
9	i09	July
10	110	September

30. Find out if the movie starring *Amir* is issued to any customer and list the custid to whom it is issued.

```
SELECT i.custid  
FROM Invoice i  
JOIN Movie m ON i.mvno = m.mvno  
WHERE m.star LIKE '%Amir%';
```

	custid character varying (3)
--	---------------------------------

31. Find out the title of the movie that have been issued to the customer whose fname is vandana.

```
SELECT m.title  
FROM Invoice i  
JOIN Cust c ON i.custid = c.custid  
JOIN Movie m ON i.mvno = m.mvno  
WHERE LOWER(c.Fname) = 'vandana';
```

	title character varying (25)
1	Pretty Woman
2	Bloody Vengeance

32. Add a column remark of type varchar and size 25 to the invoice table.

```
ALTER TABLE Invoice ADD remark VARCHAR(25);
```

33. Find out the movie number which has been issued to customer whose first name is 'pramada'.

```
SELECT i.mvno  
FROM Invoice i  
JOIN Cust c ON i.custid = c.custid  
WHERE LOWER(c.Fname) = 'pramada';
```

	mvno numeric (2)
1	6
2	5

34. Change the telephone number of pramada to 466389.

```
UPDATE Cust SET phoneno = 466389 WHERE LOWER(Fname) = 'pramada';
```

35. Change the issuedate of custid 'a01' to 24/07/93.

```
UPDATE Invoice SET issueDate = TO_DATE('24-jul-1993','DD-MON-YYYY') WHERE custid = 'A01';
```

36. Change the price of 'Gone with the wind' to Rs. 250.00.

```
UPDATE Movie SET price = 250.00 WHERE title = 'Gone with the wind';
```

37. Delete the record with invoice number 'i05' from the invoice table.

```
DELETE FROM Invoice WHERE invno = 'i05';
```

38. Delete all the records having return date before 10th July '93

```
DELETE FROM Invoice WHERE retDate < TO_DATE('10-jul-1993','DD-MON-YYYY');
```

39. Change the area of custid a05 to 'vs'.

```
UPDATE Cust SET area = 'vs' WHERE custid = 'A05';
```

40. Insert fname for customer with lname Rukmini

```
UPDATE Cust SET Fname = 'Devi' WHERE Lname = 'Rukmini';
```

41. Increase the price of all movies by 100.00

```
UPDATE Movie SET price = price + 100.00;
```

42. Change the area of customers name with 2nd letter r to LA

```
UPDATE Cust SET area = 'LA' WHERE SUBSTR(Fname,2,1) = 'r';
```

43. Delete all the records of customers who are from ba

```
DELETE FROM Cust WHERE area = 'ba';
```