COMPE 341 ACTIVITY 3

This Activity Covers The Following Subjects:

MANIPULATING DATA (DML-Insert, Update, Delete)

BASIC SQL COMMANDS

RESTRICTING AND SORTING DATA

SINGLE ROW FUNCTIONS (Character data: LOWER, UPPER, LENGTH)
DISPLAYING DATA FROM MULTIPLE TABLES (JOIN)

AGGREGATING DATA (GROUP FUNCTIONS)

SUBQUERIES/ MULTIPLE ROW SUBQUERIES

We're going to construct a database for online music store. Suppose we have 3 tables in this database: Performer, Customer and Album tables.

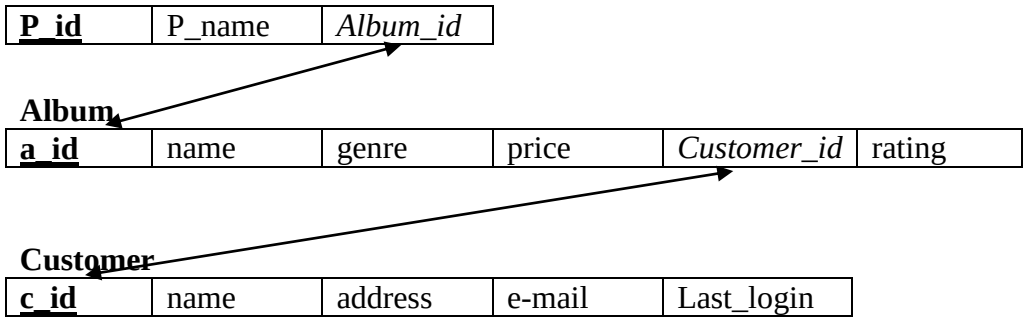
Notes:

- Performer is the artist, who can be a person or a group. Each performer has an unique P_id (set as primary key), name and Album_id.

- Customers must log in to the system and then buy the albums. Each customer has an unique c_id as primay key, name, address, a unique e-mail and last_login date. Last_login takes the current date as default.

- Album has a unique integer id number (a_id) as primary key, name, genre (such as rock, jazz, pop, etc.), price and rating for that album. Customer can give rating (1-10) to albums, so there will be a customer_id in this table.

Performer



Album_id in Performer table references a_id in Album table.
Customer_id in Album table references c_id in Customers table

CUSTOMER

C_ID	NAME	EMAIL	PASSWORD	ADDRESS	LAST_LOGIN
2345	Ozge	ozge@atilim.edu.tr	oa2345	Ankara	23.02.2010
3456	Tuna	tuna@atilim.edu.tr	34th4567	Istanbul	26.09.2010
4567	Bahar		bhr345	Istanbul	29.11.2008
5678	Nazli		nht2801	Kastamonu	14.07.2011
1234	Damla	damla@atilim.edu.tr	dt1234	Samsun	19.11.2011
6789	Ali		al2345	Samsun	01.01.2011
7890	Alp	alp@atilim.edu.tr	12ae3456	Adana	12.04.2011
4321	Seda	seda@atilim.edu.tr	sdc678	Ankara	05.04.2009

ALBUM

A_ID	NAME	GENRE	PRICE	CUSTOMER_ID	RATING	YEAR
300	Crazy	pop	20	2345		2001
500	we found love	rock	45	7890	6	2011
400	On the Floor	Pop	40	3456	4	2010
600	Crush	pop	35	1234		2002
100	promises	rock	25	1234	9	1998
200	immortal	rock	30	1234	6	2004
700	fly me	jazz	60	3456	7	1995

PERFORMER

P_ID	ALBUM_ID	PNAME
11	100	CRANBERRIES
11	500	CRANBERRIES
12	300	JENNIFER LOPEZ
12	400	JENNIFER LOPEZ
18	200	BON JOVI
21	700	FRANK SINATRA
23	600	JENNIFER PAIGE

Q1) Display the names and last login dates of customers, who enters the system in 2011.

```
select name, last_login
from customer
where last_login like '%2011'
```

Q2) Display the names of customers who buy pop music albums.

```
Select c.name
 from customer c, album a
where a.genre='pop' and c.c_id=a.customer_id
```

Q3) Display the name and genre of albums which haven't rated yet by a customer.

```
Select name, genre
from album
where rating is null
```

Q4) Display the name of performer, whose album is purchased by Damla?

```
select p.p_name
from performer p, customer c, album a
where c.c_id=a.customer_id and p.album_id=a.a_id and lower(c.name)='damla'
```

Q5) Display the total price (renamed as "payment") for each customer, paid to the company until now. Please show payments in ascending order. After running the query your output will be like that:

NAME	PAYMENT
Özge	20
Alp	45
Damla	90
Tuna	100

```
Select c.name,sum(price)
From customer c, album a
where c.c_id=a.customer_id
group by c.name
order by sum(price)
```

Q6) Write a SQL query to return the year of Cranberries' latest album release.

```
SELECT MAX(a.Year)
FROM album a, performer p
WHERE a.a_id=p.pid and lower(pname)='cranberries'
```

Q7) Display the first release dates (year) of albums for each performer. Order the results by descending order of performers (name).

```
SELECT Mın(a.Year),pname
FROM album a, performer p
WHERE a.a_id=p.albumid
group by pname
order by pname desc
```

Q8) How many rock albums sold from 1995 to 2010?

```
SELECT count(a_id)
from album
where genre='rock' and year between 1995 and 2010
```

Q9)

a) How many albums sold according to their genres? Please show the types of albums (genre) and order the number of albums like that :

number of albums	GENRE
1	jazz
3	rock
3	pop

```
select count(*) "number of albums",genre
from album
group by genre
```

b) Modify this query to display the number of albums more than 1.

number of albums	GENRE
3	rock
3	pop

```
select count(*) "number of albums",genre
from album
group by genre
having count(*) > 1
```

Q10) Suppose that your system forces the users to define passwords of 6 character long, so you need to warn customers to change their passwords **if the password don't include exactly 6 characters**. Display the names and email addresses for such **customers who has an email address.**
(Hint: you should use a single row function to determine the length of password!)

NAME	EMAIL
Tuna	tuna@atilim.edu.tr
Alp	alp@atilim.edu.tr

```
Select c_name,email
from customer
where length(password)!=6 and email is not null
```

Q11) Update the address of customers to 'Atılım Uni Ankara' whose mail addresses belongs to Atilim.

```
update customer
set address='Atılım Uni Ankara'
where email like'%atilim%'
```

SUBQUERY

Q12) Display the names of performers and names of their albums, whose prices are higher than the average price?

```
Select p.pname,a.name
From album a, performer p
Where a.aid=p.albumid and and price > (select avg (price)
                                       From album)
```

Q13) Write an SQL query to return names of performers (rename as Performer) and their albums which has a performer whose name starts with "Jennifer".

PERFORMER	ALBUM
JENNIFER LOPEZ	Crazy
JENNIFER LOPEZ	On the Floor
JENNIFER PAIGE	Crush

```
Select pname PERFORMER, a.name ALBUM
From Album a, Performer p
Where a.a_id=p.albumid and pname  IN (select pname
                                      from performer
                                      where lower(pname) like 'jennifer%')
```

Q14)

a) Display the names, genres and prices of albums whose price is less than the price of **all** rock albums.

NAME	PRICE	GENRE
Crazy	20	pop

```
SELECT name,
FROM   album
WHERE  price < ALL (SELECT price
                    FROM   album
                    WHERE  genre=rock)
```

b) Modify your query to find the name of the performer (rename as performed by) and the names, genres and prices of albums whose price is greater than the price of **any** pop albums. Order the results in ascending order of prices.

NAME	PRICE	GENRE	PERFORMED BY
fly me	60	jazz	FRANK SINATRA
we found love	45	rock	CRANBERRIES
On the Floor	40	pop	JENNIFER LOPEZ
Crush	35	pop	JENNIFER PAIGE
immortal	30	rock	BON JOVI
promises	25	rock	CRANBERRIES

```
SELECT name,price,genre,pname as “performed by”
FROM   album a, performer p
WHERE  a.a_id= p.albumid and price > ANY (SELECT price
                                          FROM   album
                                          WHERE  genre='pop')
order by price desc
```