

DBMS - LAB 4

Sub queries and Correlated

Art Gallery Management (AGM)

1) `SELECT FirstName, LastName, Age FROM Member
WHERE MemberID IN (SELECT DISTINCT MemberID FROM
BorrowedBooks group by age);`

The above query can be executed without any error. The result of this execution would be a table as shown:

Fisrtname	lastname	age
Alice	johnson	28
Bob	smith	32
Charlie	Brown	25
Diana	Williams	35
Eva	Martinez	30
Frank	Davis	28
Grace	Gracia	26
henry	Brown	32

2) `SELECT Title FROM Book WHERE PublicationYear = (SELECT
Avg(PublicationYear) FROM Book WHERE Genre = 'Science Fiction') ;`

The above query can be executed without any error. The result of this execution would be a table as shown:

Empty set

3) `SELECT FirstName, LastName FROM Member WHERE Age > (SELECT
AVG(Age) FROM Member group by firstname);`

Multiple rows returning we need one value for comparison so it raises error as
ERROR 1242 (21000): Subquery returns more than 1 row

4) The art gallery is planning an exhibition and wants to showcase artworks that are priced less than the average price for their respective types. This will help them to increase the income of art gallery. Write an SQL query to retrieve the artist ID, first name, and last name of artists whose artworks meet this criteria. [without using joins]

select artist_id, f_name, l_name from artist where exists (select art_id from art a1 where a1.artist_id = artist.artist_id and a1.art_price < (select avg(a2.art_price) from art a2 where a2.art_type = a1.art_type));

```
Database changed
PES1UG21CS425>select artist_id, f_name, l_name from artist where exists (select art_id from art a1 where a1.artist_id = artist.artist_id and a1.
art_price < (select avg(a2.art_price) from art a2 where a2.art_type = a1.art_type));
+-----+-----+-----+
| artist_id | f_name | l_name |
+-----+-----+-----+
| A002      | Karan  | Desai  |
| A004      | Manikantan | Murugan |
| A011      | Mahadev | Mani   |
+-----+-----+-----+
3 rows in set (0.01 sec)
```

5) The art gallery is organizing multiple exhibitions across different galleries. They are interested in identifying artists who have exhibited their artworks at only one gallery, as they want to acknowledge the versatility of these artists. Write an SQL query to find the artist ID, first name, and last name of these artists.[only one time you can use join]

select ar.artist_id, ar.f_name, ar.l_name from artist as ar where ar.artist_id in (select ag.artist_id from (select t.artist_id, count(t.artist_id) as c from (select distinct a.artist_id, a.gallery_id from art as a join gallery as g on a.gallery_id = g.g_id) as t group by t.artist_id) as ag where ag.c = 1);

```
PES1UG21CS425>select ar.artist_id, ar.f_name, ar.l_name from artist as ar where ar.artist_id in (select ag.artist_id from (select t.artist_id, c
ount(t.artist_id) as c from (select distinct a.artist_id, a.gallery_id from art as a join gallery as g on a.gallery_id = g.g_id) as t group by t
.artist_id) as ag where ag.c = 1);
+-----+-----+-----+
| artist_id | f_name | l_name |
+-----+-----+-----+
| A001      | Guru   | Dev    |
| A002      | Karan  | Desai  |
| A003      | Mahesh | Joshi   |
| A004      | Manikantan | Murugan |
| A005      | Jaya   | Laliitha |
| A006      | Hema   | Malini  |
| A007      | Stev   | Garcia  |
| A008      | Darmendra | Naik   |
| A009      | Lata   | paramesh |
| A010      | Ravi   | Ragavan |
| A011      | Mahadev | Mani   |
+-----+-----+-----+
11 rows in set (0.00 sec)
```

6) In the vibrant city of Bengaluru, the local art community is flourishing. There's an upcoming art exhibition focusing on paintings created by male artists. The organizers are keen to feature artists from Bengaluru who specialize in painting. Can you provide a list of male artists from Bengaluru who have created paintings for this exciting event? We need their artist IDs, first names, and last names to include them in the exhibition. [without using joins]

select artist_id, f_name, l_name from artist where gender = 'm' and location= 'Bengaluru' and artist_id IN (select artist_id from art where art_type = 'painting');

```
PES1UG21CS425>select artist_id, f_name, l_name from artist where gender = 'm' and location= 'Bengaluru' and artist_id IN (select artist_id from art where art_type = 'painting');
+-----+-----+-----+
| artist_id | f_name | l_name |
+-----+-----+-----+
| A001      | Guru   | Dev     |
| A004      | Manikantan | Murugan |
+-----+-----+-----+
2 rows in set (0.00 sec)

PES1UG21CS425>
```

7) Imagine you are managing an art gallery's customer database. The gallery wants to identify customers who have been particularly active in purchasing artworks. To do this, they want you to find customers who have placed more than two orders. How would you write an SQL query to accomplish this task and provide a list of customer IDs meeting this criterion? [with out using joins]

select cust_id from purchase group by cust_id having count(*)>2;

```
PES1UG21CS425>select cust_id from purchase group by cust_id having count(*)>2;
+-----+
| cust_id |
+-----+
| C002    |
+-----+
1 row in set (0.04 sec)
```

8) In the bustling city of Bengaluru, the local art gallery is hosting a special exhibition, and the management is closely monitoring the success of the event. They are particularly interested in identifying customers who may have encountered payment issues during their art purchases. Your task is to help them find these customers and gather their information for further assistance. Can you provide a list of customers in Bengaluru who have experienced payment failures while purchasing artworks from the gallery's recent exhibition? Please include their customer ID (cust_id), first name (f_name), and last name (l_name) in your report.[with out using joins]

select cust_id, f_name, l_name from customer where location='bengaluru' and cust_id in (select cust_id from purchase where order_id in (select order_id from payment where p_status='Failed'));

Empty set (0.00 sec)

```
PES1UG21CS425>select cust_id, f_name, l_name from customer where location='bengaluru' and cust_id in (select cust_id from purchase where order_id in (select order_id from payment where p_status='Failed' ));
Empty set (0.00 sec)
PES1UG21CS425|
```

9) In the vibrant world of art galleries, a fascinating enigma awaits unraveling. The art gallery management is on a quest to uncover hidden artistic talents. They are keen to identify artists who, despite their remarkable skills, have never participated in any exhibition, particularly the prestigious 'G003' exhibition. These artists also have a distinct penchant for non-conventional art forms, as they have never crafted any artworks categorized as painting. Without using joins, provide a list of the first names (fname) and last names (lname) of these unique artists. [with out using joins]

select f_name, l_name from artist where artist_id not in (select artist_id from art where art_id in (select art_id from exhibited where ex_id='G003')) and artist_id not in (select artist_id from art where art_type='painting');

```
PES1UG21CS425>select f_name, l_name from artist where artist_id not in (select artist_id from art where art_id in (select art_id from exhibited where ex_id='G003')) and artist_id not in (select artist_id from art where art_type='painting');
+-----+-----+
| f_name | l_name |
+-----+-----+
| Karan  | Desai  |
| Mahesh | Joshi  |
| Jaya   | Lalitha|
| Hema   | Malini |
| Stev   | Garcia |
| Darwendra | Naik |
| Lata   | Paramesh |
| Mahadev | Mani |
| Ram    | Dev    |
+-----+-----+
9 rows in set (0.07 sec)
```