Coding Challenge

SQL Virtual Art Gallery

Name: Soundarya V

Tables:

Artists table

rtistID	Name Nationality	Biography	
2 3 4 5	Pablo Picasso Vincent van Gogh Leonardo da Vinci Claude Monet Michelangelo Buonarroti Georgia O'Keeffe	Renowned Spanish painter and sculptor. Dutch post-impressionist painter. Italian polymath of the Renaissance. French impressionist painter. Italian sculptor, painter, and architect. American modernist artist.	Spanish Dutch Italian French Italian

Categories table

Exhibition artworks table:

mysql> select *	from exhibi	itionartworks;
ExhibitionID	ArtworkID	Ţ
1 1	1	ī
1	2	1
2	2	İ
1 4 1	2	İ
1 1	3	İ
j 4 j	3	İ
j 3 j	4	i
j 3 j	6	i
j 4 j	6	i
·		- -
9 rows in set (0	.00 sec)	

Artworks table:

- 1	ct * from artwor		!	+	•	
+ ArtworkID 			CategoryID		Description	ImageURL
1 1	Starry Night		1	1889	A famous painting by Vincent van Gogh.	starry_night.jp
9 1	Mona Lisa	3	1	1503	The iconic portrait by Leonardo da Vinci.	mona_lisa.jpg
] 3	Guernica	1	1	1937	Pablo Picasso's powerful anti-war mural.	guernica.jpg
1 4	Water Lilies	4	1	1916	A series of paintings by Claude Monet.	water_lilies.jp
g 5	David	5	2	1504	A masterpiece of Renaissance sculpture by Michelangelo.	david.jpg
6	Black Iris	6	1	1926	A painting by Georgia O'Keeffe.	black_iris.jpg
+ 6 rows in se	-+ et (0.00 sec)	+	+ -	+	·	

Exhibition table:

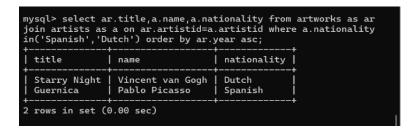
ExhibitionID	Title	StartDate	EndDate	Description
2 3	Renaissance Art Impressionist Art	2023-04-01 2023-07-01	2023-06-01 2023-09-01	A collection of modern art masterpieces. A showcase of Renaissance art treasures. A collection of impressionist artworks. Celebrating women artists.

Solve the below queries:

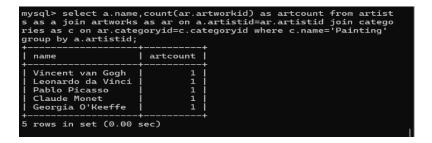
1. Retrieve the names of all artists along with the number of artworks they have in the gallery, and list them in descending order of the number of artworks.



2. List the titles of artworks created by artists from 'Spanish' and 'Dutch' nationalities, and order them by the year in ascending order.



3. Find the names of all artists who have artworks in the 'Painting' category, and the number of artworks they have in this category.



4. List the names of artworks from the 'Modern Art Masterpieces' exhibition, along with their artists and categories.

5. Find the artists who have more than two artworks in the gallery.

```
mysql> select a.name, count(ar.artworkid) as artworkcount from a rtists a join artworks as ar on a.artistid = ar.artistid group b y a.artistid having count(ar.artworkid) > 2;
Empty set (0.00 sec)
```

6. Find the titles of artworks that were exhibited in both 'Modern Art Masterpieces' and 'Renaissance Art' exhibitions.

7. Find the total number of artworks in each category.

8. List artists who have more than 3 artworks in the gallery.

```
mysql> select a.name,count(ar.artworkid) from artists as a join artworks as ar on a.artistid=ar.artistid group by a.artistid hav ing count(ar.artworkid)>3;
Empty set (0.00 sec)
```

9. Find the artworks created by artists from a specific nationality (e.g., Spanish).

10. List exhibitions that feature artwork by both Vincent van Gogh and Leonardo da Vinci.

11. Find all the artworks that have not been included in any exhibition.

```
mysql> select ar.title from artworks as ar join exhibitionartworks as ea on ar.artworkid=ea.artworkid where ea.artworkid is null;
Empty set (0.00 sec)
```

12. List artists who have created artworks in all available categories.

```
mysql> select a.name from artists as a join artworks as ar on a. artistid=ar.artistid group by a.artistid having count(distinct a r.categoryid)=(select count(*) from categories);
Empty set (0.01 sec)
```

13. List the total number of artworks in each category.

```
      mysql> select c.name,count(ar.artworkid) from categories as c jo

      in artworks as ar on c.categoryid=ar.categoryid group by c.categ

      oryid;

      +------+

      | name | | count(ar.artworkid) |

      +------+

      | Painting | 5 |

      | Sculpture | 1 |

      +------+

      2 rows in set (0.00 sec)
```

14. Find the artists who have more than 2 artworks in the gallery.

```
mysql> select a.name,count(ar.artworkid) from artists as a join artworks as ar on a.artistid=ar.artistid group by a.artistid hav ing count(ar.artworkid)>2;
Empty set (0.00 sec)
```

15. List the categories with the average year of artworks they contain, only for categories with more than 1 artwork.

16. Find the artworks that were exhibited in the 'Modern Art Masterpieces' exhibition.

17. Find the categories where the average year of artworks is greater than the average year of all artworks.

18. List the artworks that were not exhibited in any exhibition.

```
mysql> select ar.title from artworks as ar join exhibitionartworks as ea on ar.artworkid=ea.artworkid where ea.artworkid is null;
Empty set (0.00 sec)
```

19. Show artists who have artworks in the same category as "Mona Lisa."

20. List the names of artists and the number of artworks they have in the gallery.