

Assignment - Art Gallery

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Creating a table :

```
CREATE TABLE Categories (  
CategoryID INT PRIMARY KEY,  
Name VARCHAR(100) NOT NULL);
```

```
CREATE TABLE Artworks (ArtworkID INT PRIMARY KEY,  
Title VARCHAR(255) NOT NULL,  
ArtistID INT,  
CategoryID INT,  
Year INT,  
Description TEXT,  
ImageURL VARCHAR(255),  
FOREIGN KEY (ArtistID) REFERENCES Artists (ArtistID),  
FOREIGN KEY (CategoryID) REFERENCES Categories (CategoryID));
```

```
CREATE TABLE Exhibitions (ExhibitionID INT PRIMARY KEY,  
Title VARCHAR(255) NOT NULL,  
StartDate DATE,  
EndDate DATE,  
Description TEXT);
```

```
CREATE TABLE ExhibitionArtworks (  
ExhibitionID INT,  
ArtworkID INT,  
PRIMARY KEY (ExhibitionID, ArtworkID),  
FOREIGN KEY (ExhibitionID) REFERENCES Exhibitions (ExhibitionID),  
FOREIGN KEY (ArtworkID) REFERENCES Artworks (ArtworkID));
```

Inserting elements into table :

INSERT INTO Artists (ArtistID, Name, Biography, Nationality) VALUES

(1, 'Pablo Picasso', 'Renowned Spanish painter and sculptor.', 'Spanish'),
(2, 'Vincent van Gogh', 'Dutch post-impressionist painter.', 'Dutch'),
(3, 'Leonardo da Vinci', 'Italian polymath of the Renaissance.', 'Italian');

INSERT INTO Categories (CategoryID, Name) VALUES

(1, 'Painting'),
(2, 'Sculpture'),
(3, 'Photography');

INSERT INTO Artworks (ArtworkID, Title, ArtistID, CategoryID, Year, Description, ImageURL) VALUES

(1, 'Starry Night', 2, 1, 1889, 'A famous painting by Vincent van Gogh.', 'starry_night.jpg'),
(2, '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');

INSERT INTO Exhibitions (ExhibitionID, Title, StartDate, EndDate, Description) VALUES

(1, 'Modern Art Masterpieces', '2023-01-01', '2023-03-01', 'A collection of modern art masterpieces.'),
(2, 'Renaissance Art', '2023-04-01', '2023-06-01', 'A showcase of Renaissance art treasures.');

INSERT INTO ExhibitionArtworks (ExhibitionID, ArtworkID) VALUES

(1, 1),
(1, 2),
(1, 3),
(2, 2);

Tasks :

1. select Artists.Name, count (Artworks.ArtworkID) AS ArtworkCount
from Artists left join Artworks on Artists.ArtistID = Artworks.ArtistID
group by Artists.Name
order by ArtworkCount desc;

2. select a.Description from Artworks a join Artists t on t.ArtistID=a.ArtistID
where t.Nationality ='Spanish' or t.Nationality='Dutch'
order by a.year;

3. select Artists.name,count(Artworks.CategoryID) from Artists
join Artworks on Artists.ArtsistID = Artworks.ArtistsID
join Categories on Categories.CategoryID = Artworks.CategoryID
where Artworks.CategoryID = 1;

4. select Artworks.Title,Artists.name,Categories.name from Artworks join
ExhibitionArtworks on Artworks.ArtworkID=ExhibitionArtworks.ArtworkID
join Exhibitions on ExhibitionArtworks.ExhibitionID=Exhibitions.ExhibitionID
join Artists on Artists.ArtistID = Artworks.ArtistID
join Categories on Categories.CategoryID = Artworks.CategoryID
where Exhibitions.Title = 'Modern Art Masterpieces';

5. select Artists.name from Artists
join Artworks on Artists.ArtistID = Artworks.ArtistID
group by Artists.name
having count(Artworks.ArtworkID) > 2;

6. select Artworks.Title
from Artworks
join ExhibitionArtworks ea1 on Artworks.ArtworkID = ea1.ArtworkID
join Exhibitions ex1 on ea1.ExhibitionID = ex1.ExhibitionID
join ExhibitionArtworks ea2 on Artworks.ArtworkID = ea2.ArtworkID
join Exhibitions ex2 on ea2.ExhibitionID = ex2.ExhibitionID
where ex1.Title = 'Modern Art Masterpieces'AND ex2.Title = 'Renaissance Art';

7. select Categories.Name,count(Artworks.CategoryID) from Artworks join Categories on
Artworks.CategoryID=Categories.CategoryID group by categories.name;

8. select Artists.name from Artists join Artworks on Artists.ArtistID = Artworks.ArtistID
group by Artists.name having count(Artworks.ArtworkID) > 3;

9. select Artworks.Title from Artworks join Artists on Artworks.ArtistID = Artists.ArtistID
where Artists.Nationality = 'Spanish';

10. select Exhibitions.Title from Exhibitions join ExhibitionArtworks ea1 on
Exhibitions.ExhibitionID = ea1.ExhibitionID
join Artworks a1 on ea1.ArtworkID = a1.ArtworkID
join ExhibitionArtworks ea2 on Exhibitions.ExhibitionID = ea2.ExhibitionID
join Artworks a2 on ea2.ArtworkID = a2.ArtworkID
join Artists av on a1.ArtistID = av.ArtistID
join Artists al on a2.ArtistID = al.ArtistID
where av.Name = 'Vincent van Gogh' and al.Name = 'Leonardo da Vinci';

11.select Artworks.Title
from Artworks
left join ExhibitionArtworks on Artworks.ArtworkID = ExhibitionArtworks.ArtworkID
Where ExhibitionArtworks.ArtworkID is null;

12. select Artists.Name
from Artists
join Artworks on Artists.ArtistID = Artworks.ArtistID
group by Artists.Name
having count(distinct Artworks.CategoryID) = (select count(*) from Categories);

13. select Categories.Name, count(Artworks.ArtworkID) as TotalArtworks
From Categories
Left join Artworks on Categories.CategoryID = Artworks.CategoryID
Group by Categories.Name;

14. select Artists.name from Artists
join Artworks on Artists.ArtistID = Artworks.ArtistID
where Artworks.ArtistID > 2;

15. select Categories.Name, avg(Artworks.Year) as AverageYear
from Categories
join Artworks on Categories.CategoryID = Artworks.CategoryID
group by Categories.Name
having count(Artworks.ArtworkID) > 1;

16. select Artworks.Title from Artworks join ExhibitionArtworks on Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID
join Exhibitions on ExhibitionArtworks.ExhibitionID = Exhibitions.ExhibitionID
where Exhibitions.ExhibitionID = 1;

17. select Categories.name from Categories join Artworks on Artworks.CategoryID =
Categories.CategoryID
group by Categories.name
having avg(Artworks.year) > (select avg(year) from Artworks);

18. select Artists.Title
from Artists
left join ExhibitionArtworks on Artists.ArtistID = ExhibitionArtworks.ArtistID
where ExhibitionArtworks.ArtistID is null;

19. select Artists.name from Artists join Artists.ArtistID=Artworks.ArtistID
join Categories on Categories.CategoryID=Artworks.CategoryID
where Artists.CategoryID = (select Categories.CategoryID from Categories join Artists
on Artists.CategoryID=Categories.CategoryID where Artists.Title = 'Mona Lisa');

20. select Artists.Name, count (Artworks.ArtworkID) as ArtworkCount
from Artists
left join Artworks on Artists.ArtistID = Artworks.ArtistID
group by Artists.Name
order by ArtworkCount;