

## Assignment - Art Gallery

Sivadharini S

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.Title 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;