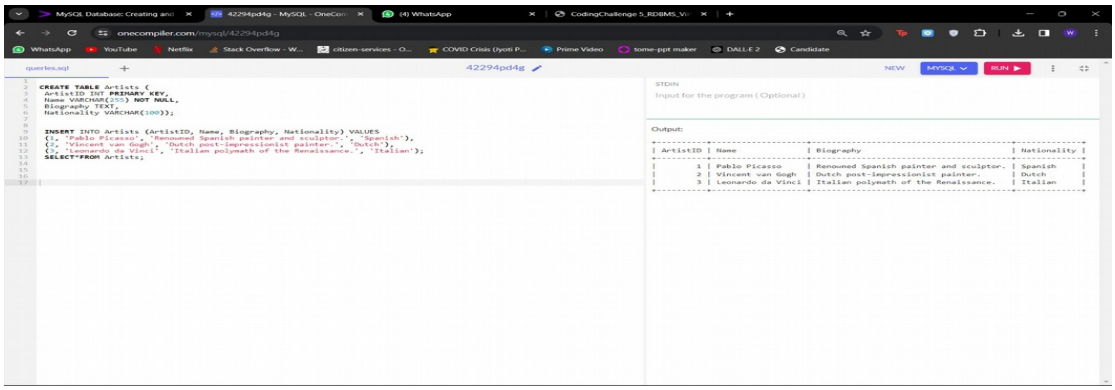
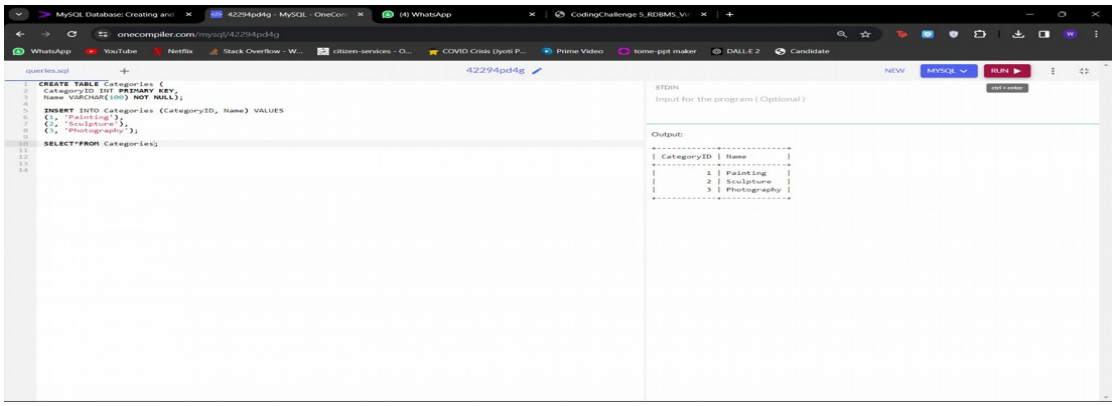
Name : ***Sneha Das***
Project : Virtual Art Gallery Shema DDL and DML
Coding Challenge **SQL**

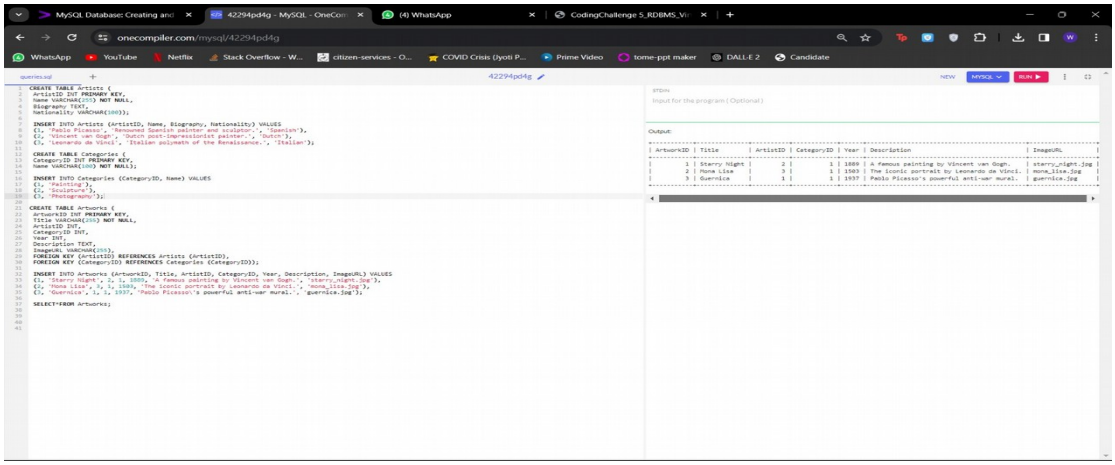
-- Create the Artists table



- Create the Categories table

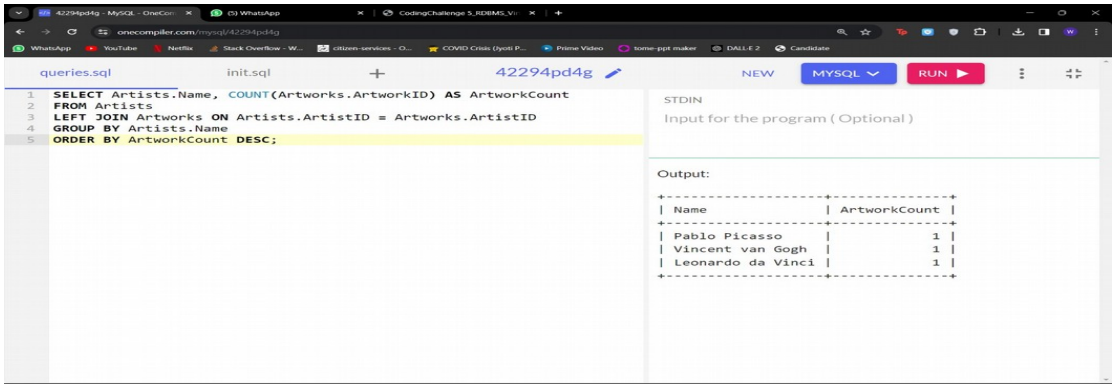


Create the Artworks table



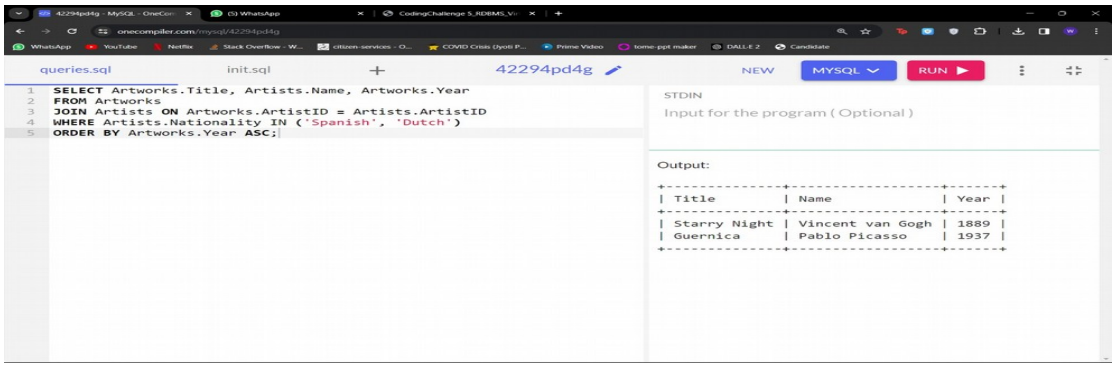
Q1

```
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;
```



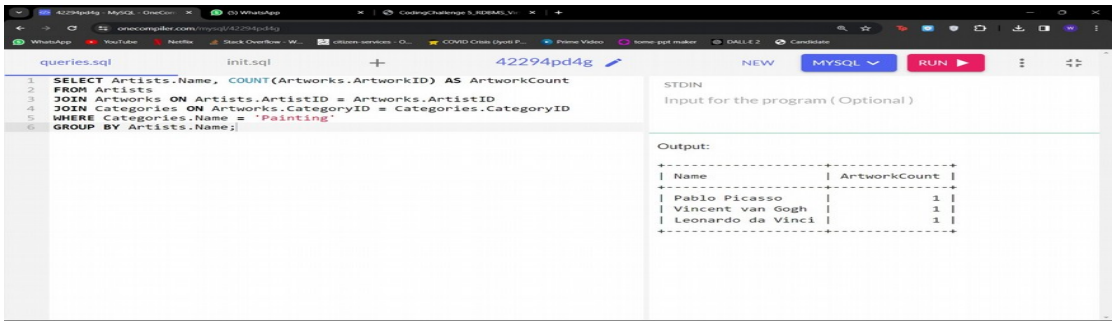
Q2

```
SELECT Artworks.Title, Artists.Name, Artworks.Year
FROM Artworks
JOIN Artists ON Artworks.ArtistID = Artists.ArtistID
WHERE Artists.Nationality IN ('Spanish', 'Dutch')
ORDER BY Artworks.Year ASC;
```



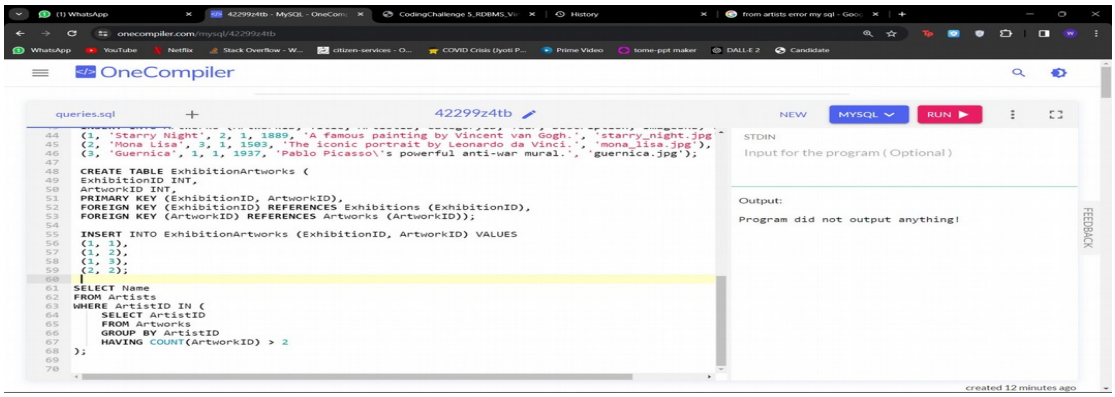
Q3

```
SELECT Artists.Name, COUNT(Artworks.ArtworkID) AS ArtworkCount
FROM Artists
JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
JOIN Categories ON Artworks.CategoryID = Categories.CategoryID
WHERE Categories.Name = 'Painting'
GROUP BY Artists.Name;
```



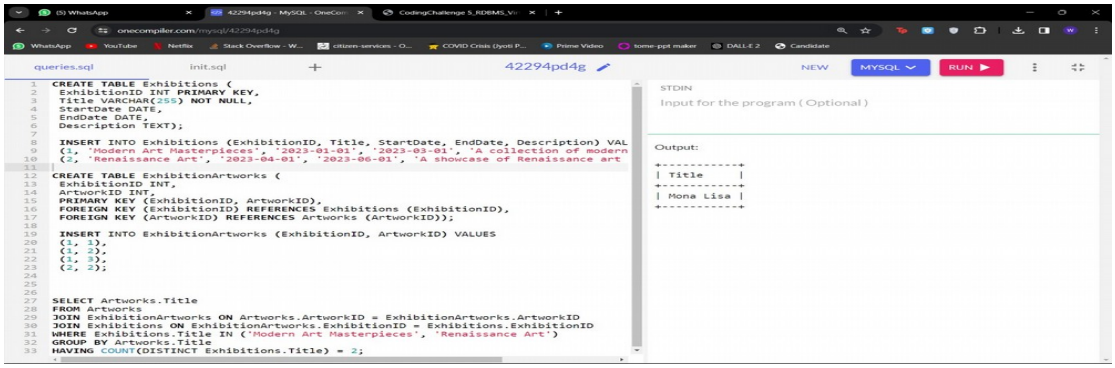
Q4
SELECT Artworks.Title, Artists.Name, Categories.Name
FROM Artworks
JOIN Artists ON Artworks.ArtistID = Artists.ArtistID
JOIN ExhibitionArtworks ON Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID
JOIN Exhibitions ON ExhibitionArtworks.ExhibitionID = Exhibitions.ExhibitionID
JOIN Categories ON Artworks.CategoryID = Categories.CategoryID
WHERE Exhibitions.Title = 'Modern Art Masterpieces';

Q5.SELECT Name
FROM Artists
WHERE ArtistID IN (
  SELECT ArtistID
  FROM Artworks
  GROUP BY ArtistID
  HAVING COUNT(ArtworkID) > 2
);

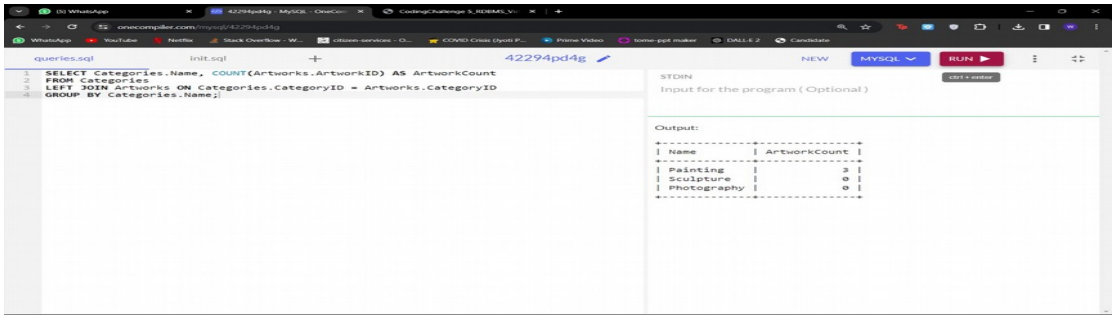


Q6.SELECT Artworks.Title
FROM Artworks
JOIN ExhibitionArtworks ON Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID

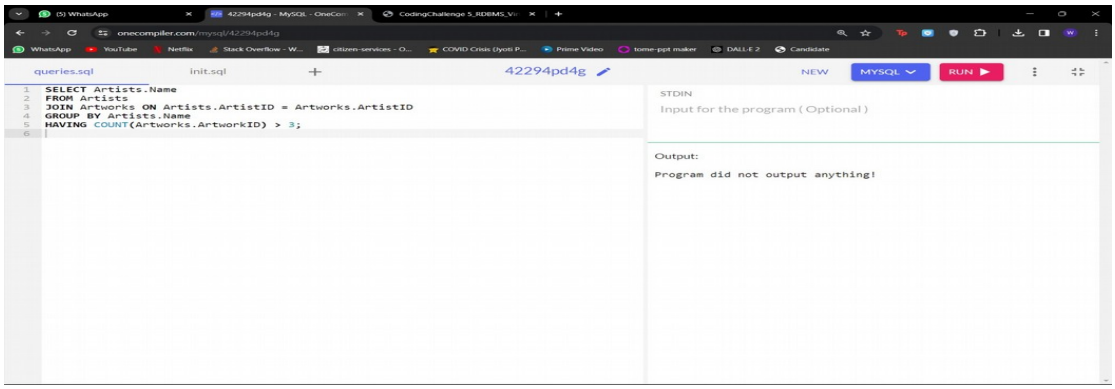
JOIN Exhibitions ON ExhibitionArtworks.ExhibitionID = Exhibitions.ExhibitionID
WHERE Exhibitions.Title IN ('Modern Art Masterpieces', 'Renaissance Art')
GROUP BY Artworks.Title
HAVING COUNT(DISTINCT Exhibitions.Title) = 2;



Q7.
SELECT Categories.Name, COUNT(Artworks.ArtworkID) AS ArtworkCount
FROM Categories
LEFT JOIN Artworks ON Categories.CategoryID = Artworks.CategoryID
GROUP BY Categories.Name;

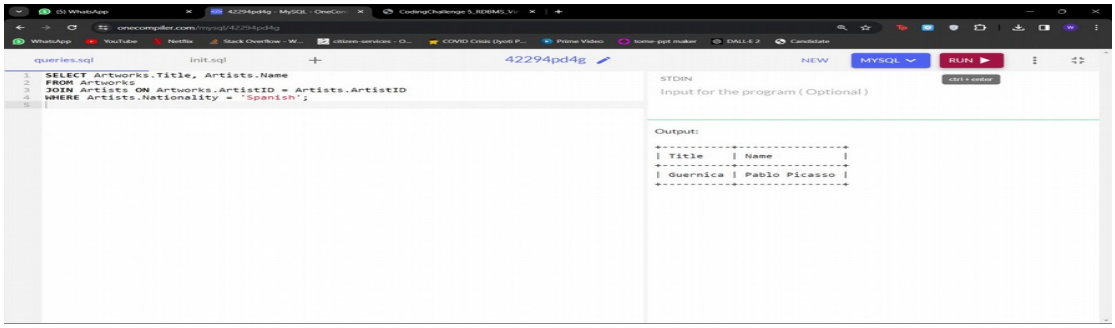


Q8.
SELECT Artists.Name
FROM Artists
JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
GROUP BY Artists.Name
HAVING COUNT(Artworks.ArtworkID) > 3;



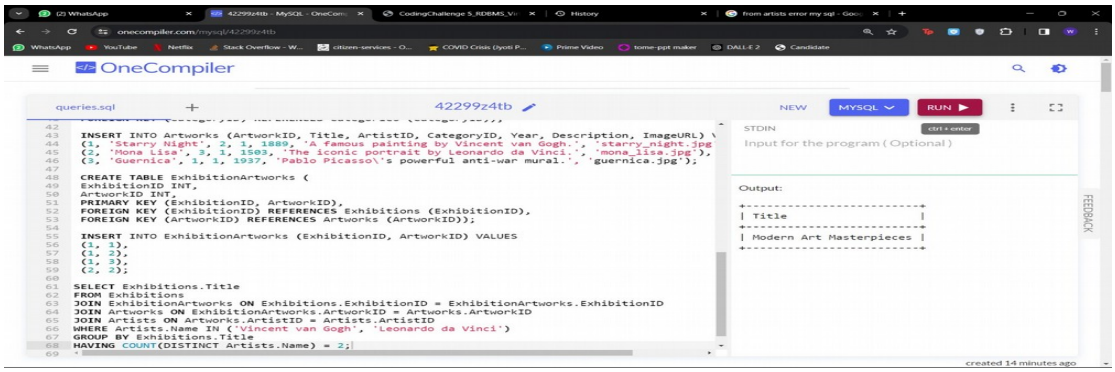
Q9.

```
SELECT Artworks.Title, Artists.Name
FROM Artworks
JOIN Artists ON Artworks.ArtistID = Artists.ArtistID
WHERE Artists.Nationality = 'Spanish';
```

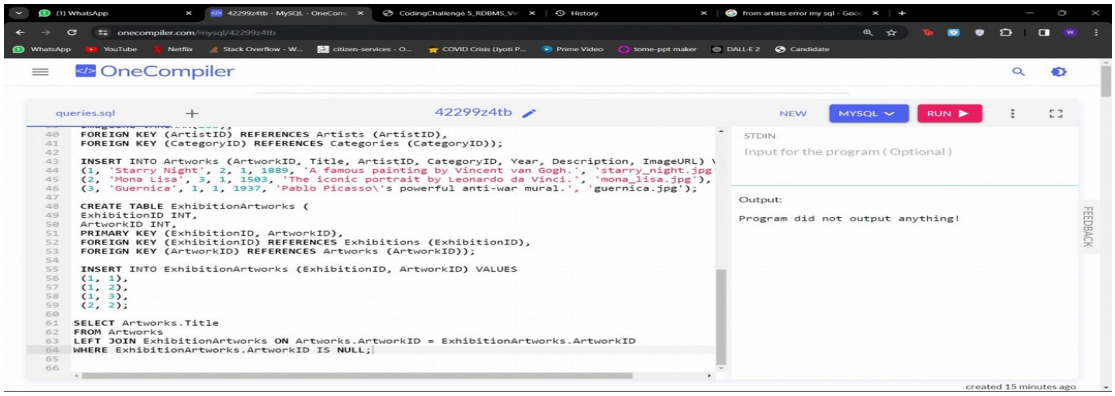


Q10.

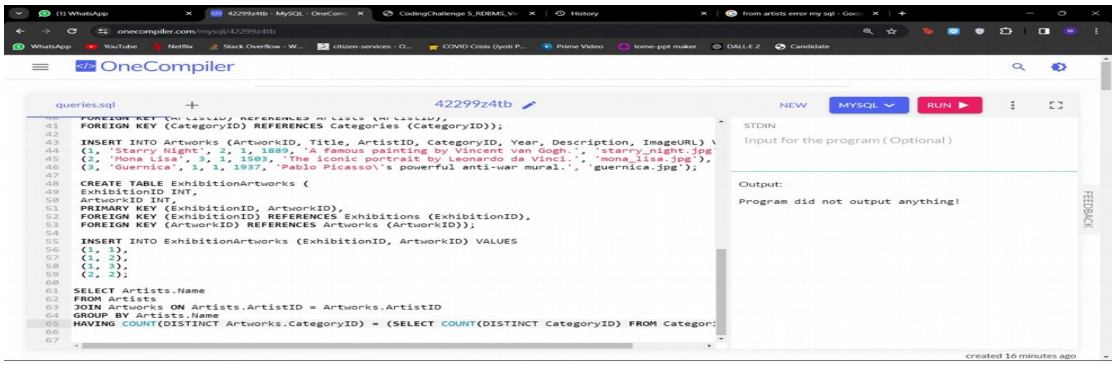
```
SELECT Exhibitions.Title
FROM Exhibitions
JOIN ExhibitionArtworks ON Exhibitions.ExhibitionID =
ExhibitionArtworks.ExhibitionID
JOIN Artworks ON ExhibitionArtworks.ArtworkID = Artworks.ArtworkID
JOIN Artists ON Artworks.ArtistID = Artists.ArtistID
WHERE Artists.Name IN ('Vincent van Gogh', 'Leonardo da Vinci')
GROUP BY Exhibitions.Title
HAVING COUNT(DISTINCT Artists.Name) = 2;
```



Q11.
SELECT Artworks.Title
FROM Artworks
LEFT JOIN ExhibitionArtworks ON Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID
WHERE ExhibitionArtworks.ArtworkID IS NULL;

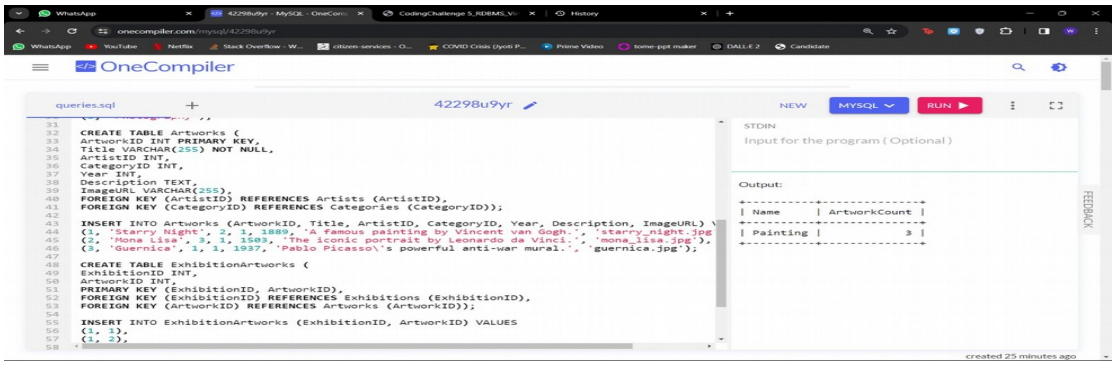


Q12.
SELECT Artists.Name
FROM Artists
JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
GROUP BY Artists.Name
HAVING COUNT(DISTINCT Artworks.CategoryID) = (SELECT COUNT(DISTINCT
CategoryID) FROM Categories);



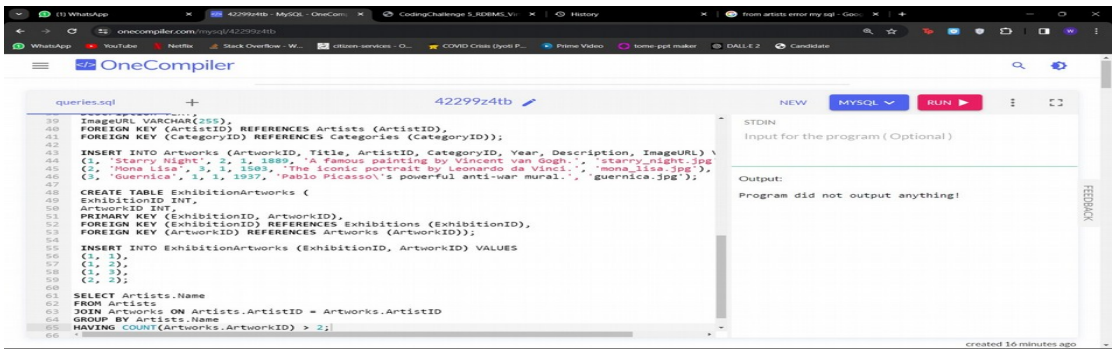
Q13.

```
SELECT Categories.Name, COUNT(Artworks.ArtworkID) AS ArtworkCount
FROM Categories
LEFT JOIN Artworks ON Categories.CategoryID = Artworks.CategoryID
GROUP BY Categories.Name
HAVING ArtworkCount > 0;
```



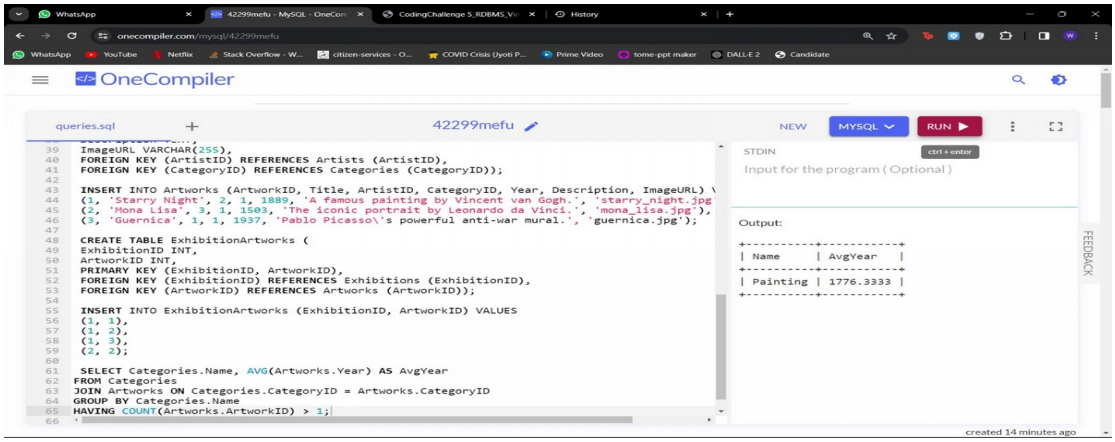
Q14.

```
SELECT Artists.Name
FROM Artists
JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
GROUP BY Artists.Name
HAVING COUNT(Artworks.ArtworkID) > 2;
```



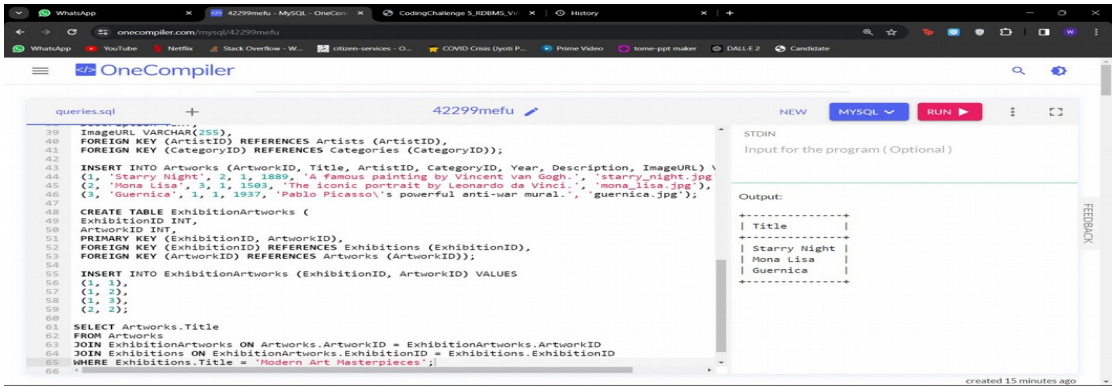
Q15.

```
SELECT Categories.Name, AVG(Artworks.Year) AS AvgYear
FROM Categories
JOIN Artworks ON Categories.CategoryID = Artworks.CategoryID
GROUP BY Categories.Name
HAVING COUNT(Artworks.ArtworkID) > 1;
```



Q16.

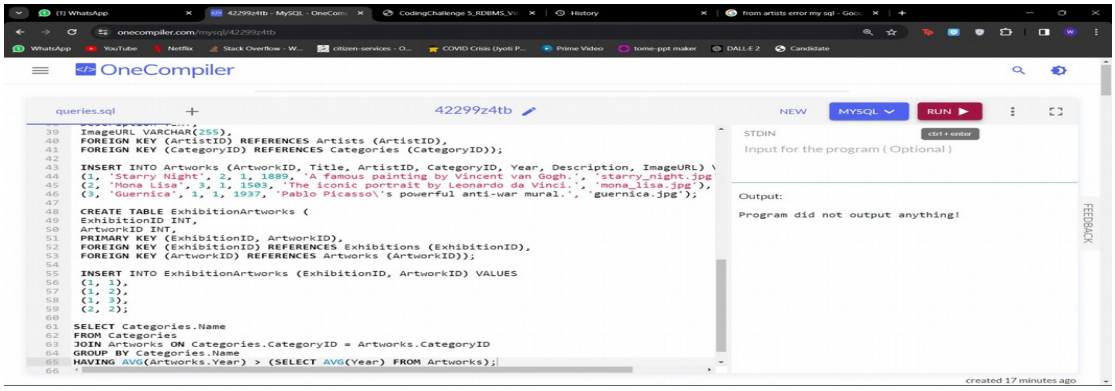
```
SELECT Artworks.Title
FROM Artworks
JOIN ExhibitionArtworks ON Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID
JOIN Exhibitions ON ExhibitionArtworks.ExhibitionID = Exhibitions.ExhibitionID
WHERE Exhibitions.Title = 'Modern Art Masterpieces';
```



Q17.

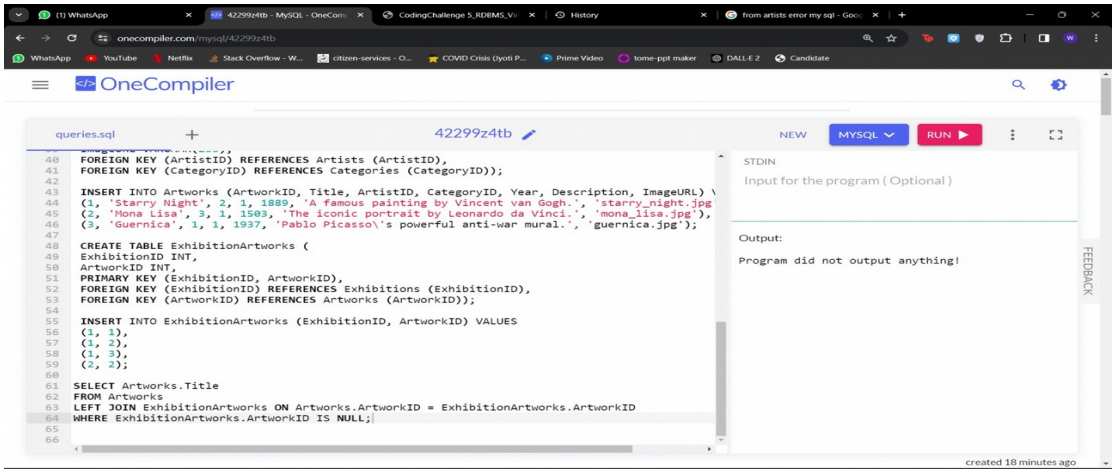
```
SELECT Categories.Name
```

```
FROM Categories
JOIN Artworks ON Categories.CategoryID = Artworks.CategoryID
GROUP BY Categories.Name
HAVING AVG(Artworks.Year) > (SELECT AVG(Year) FROM Artworks);
```



Q18.

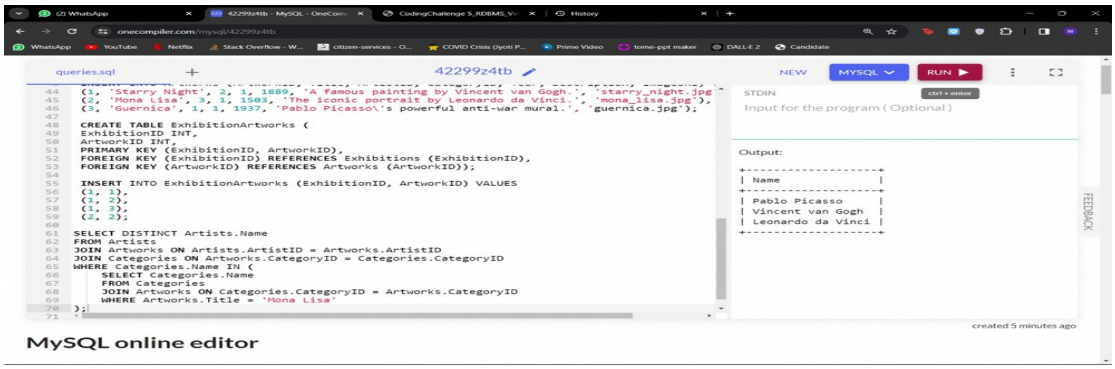
```
SELECT Artworks.Title
FROM Artworks
LEFT JOIN ExhibitionArtworks ON Artworks.ArtworkID =
ExhibitionArtworks.ArtworkID
WHERE ExhibitionArtworks.ArtworkID IS NULL;
```



Q19.

```
SELECT DISTINCT Artists.Name
FROM Artists
JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
JOIN Categories ON Artworks.CategoryID = Categories.CategoryID
WHERE Categories.Name IN (
  SELECT Categories.Name
  FROM Categories
```

```
    JOIN Artworks ON Categories.CategoryID = Artworks.CategoryID
    WHERE Artworks.Title = 'Mona Lisa'
);
```



Q20.

```
SELECT Artists.Name, COUNT(Artworks.ArtworkID) AS ArtworkCount
FROM Artists
LEFT JOIN Artworks ON Artists.ArtistID = Artworks.ArtistID
GROUP BY Artists.Name;
```