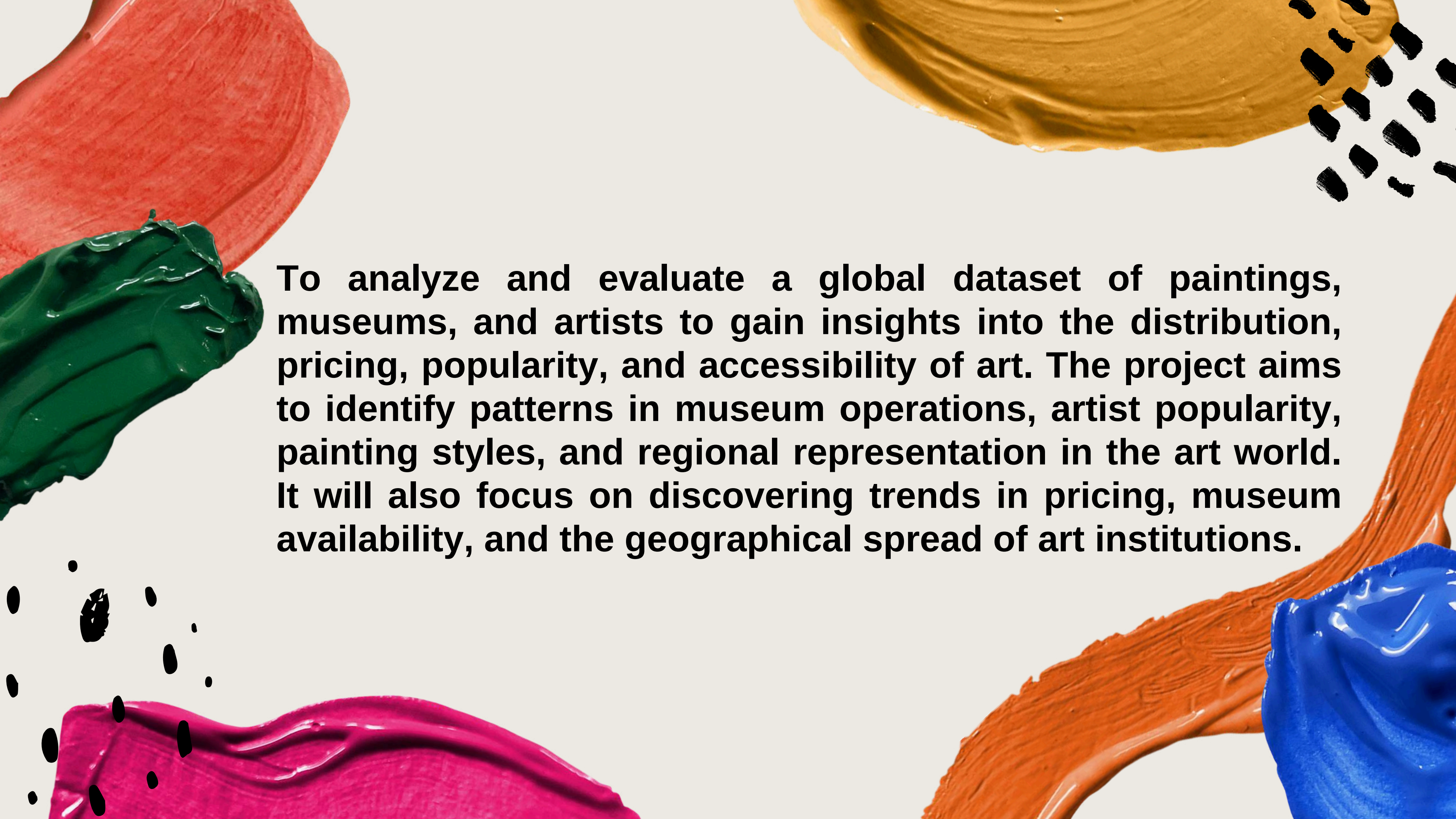




FAMOUS PAINTINGS

SQL Project



To analyze and evaluate a global dataset of paintings, museums, and artists to gain insights into the distribution, pricing, popularity, and accessibility of art. The project aims to identify patterns in museum operations, artist popularity, painting styles, and regional representation in the art world. It will also focus on discovering trends in pricing, museum availability, and the geographical spread of art institutions.

Fetch all the paintings which are not displayed on any museums

```
SELECT * FROM WORK
WHERE MUSEUM_ID IS NULL;
```

	work_id bigint	name text	artist_id bigint	style text	museum_id double precision
1	125752	Arabian Horses at Pasture	757	Baroque	[null]
2	125818	Count Halm on His Basedow Estate	757	Baroque	[null]
3	125763	Napoleon Before the Burning City of Smolensk	757	Baroque	[null]
4	125774	Peasants Resting in the Field	757	Baroque	[null]
5	125785	Portrait Oberleutnant Theodor Von Klein	757	Baroque	[null]
6	125796	The Rescue of Count Munnich	757	Baroque	[null]
7	125807	The Stable Yard	757	Baroque	[null]
8	24532	Jacob A. Stamler Departing Le Havre	563	[null]	[null]
9	124470	Kaleda off Le Havre	563	[null]	[null]
10	124479	R. Bell & Co. Steamship Bothal in a Heavy Swell	563	[null]	[null]
11	124488	Steam Sailing Ship Finsbury in a Stormy Sea	563	[null]	[null]
12	124497	The American Ship Olive S Southard in French Waters	563	[null]	[null]
13	124506	The Atalanta Running Under Reduced Sail in a Gale	563	[null]	[null]
14	124515	The Auxiliary Steamer County of Sutherland at Sea Under Steam and Sail	563	[null]	[null]
Total rows: 1000 of 10223 Query complete 00:00:00.059					

Are there any museums without any paintings?

```
SELECT * FROM MUSEUM M
LEFT JOIN
WORK W ON M.MUSEUM_ID = W.MUSEUM_ID
WHERE W.WORK_ID IS NULL;
```

museum_id	name	address	city	state	postal	country	phone	url	work_id	name	artist_id	style	museum_id
bigint	text	text	text	text	text	text	text	text	bigint	text	bigint	text	double precision

There are no museums present that do not have a painting



How many paintings have an asking price of more than their regular price?

```
SELECT COUNT(*) AS TOTAL  
FROM PRODUCT_SIZE  
WHERE SALE_PRICE > REGULAR_PRICE;
```



total
bigint




0



Identify the paintings whose asking price is less than 50% of its regular price

```
SELECT * FROM PRODUCT_SIZE
WHERE SALE_PRICE < (0.5 * REGULAR_PRICE);
```



	work_id bigint	size_id text	sale_price bigint	regular_price bigint
1	31780	36	10	125
2	31780	30	10	95
3	31780	2436	345	605
4	31780	3046	435	785
5	31780	3654	545	1005
6	31780	4060	615	1145
7	31780	4872	775	1465
8	31780	36	10	125
Total rows: 257 of 257			Query complete 00:00:00.090	

Which canva size costs the most?

```
SELECT C.LABEL, PS.SALE_PRICE
FROM CANVAS_SIZE C
JOIN PRODUCT_SIZE PS ON C.SIZE_ID = PS.SIZE_ID ::int
WHERE PS.SALE_PRICE =
      (SELECT MAX(PS.SALE_PRICE)
       FROM PRODUCT_SIZE PS);
```

label	sale_price
text	bigint
48" x 96"(122 cm x 244 cm)	1115

Identify the museums with invalid city information in the given dataset

```
SELECT *FROM MUSEUM
WHERE CITY ~ '^ [0-9] ' ;
```

<div>museum_id</div> <div>bigint</div>	<div>name</div> <div>text</div>	<div>address</div> <div>text</div>	<div>city</div> <div>text</div>	<div>state</div> <div>text</div>	<div>postal</div> <div>text</div>	<div>country</div> <div>text</div>	<div>phone</div> <div>text</div>	<div>url</div> <div>text</div>
34	The State Hermitage Museum	Palace Square	2	Sankt-Peterburg	190000	Russia	7 812 710-90-79	https://www.hermitagemuseum.org/wps/portal
36	Museum Folkwang	Museumsplatz 1	45128	Essen	[null]	Germany	49 201 8845000	https://www.museum-folkwang.de/en
37	Museum of Grenoble	5 Pl. de Lavalette	38000	Grenoble	[null]	France	33 4 76 63 44 44	https://www.museedegrenoble.fr/1986-the-museum-of-grenoble
38	Musée des Beaux-Arts de Quimper	40 Pl. Saint-Corentin	29000	Quimper	[null]	France	33 2 98 95 45 20	https://www.mbaq.fr/en/home-3.html
40	Musée du Louvre	Rue de Rivoli	75001	Paris	[null]	France	33 1 40 20 50 50	https://www.louvre.fr/en
74	Kröller-Müller Museum	Houtkampweg 6	6731 AW Otterlo	[null]	[null]	Netherlands	+31 318 591 241	https://krollermuller.nl/en

Fetch the top 10 most famous painting subjects

```
SELECT DISTINCT SUBJECT, COUNT(*)
FROM SUBJECT S
JOIN WORK W
ON S.WORK_ID = W.WORK_ID
GROUP BY SUBJECT
ORDER BY COUNT(*) DESC
LIMIT 10;
```

subject	count
text	bigint
Portraits	1070
Abstract/Modern Art	575
Nude	525
Landscape Art	495
Rivers/Lakes	480
Flowers	457
Still-Life	395
Seascapes	326
Marine Art/Maritime	268
Horses	265

Identify the museums which are open on both Sunday and Monday. Display Museum Name and City

```
SELECT m.name, m.city
FROM museum_hours mh
JOIN museum m ON mh.museum_id = m.museum_id
WHERE day IN ('Sunday', 'Monday')
GROUP BY m.name, m.city
HAVING COUNT(day) = 2
ORDER BY m.name;
```

	name text	city text
1	Army Museum	Paris
2	Courtauld Gallery	Stran
3	Israel Museum	Jerusalem
4	Los Angeles County Museum of Art	Los Angeles
5	Mauritshuis Museum	Den Haag
6	Museum of Fine Arts Boston	Boston
7	Museum of Fine Arts of Nancy	Nancy
8	Museum of Grenoble	38000
9	Musée du Louvre	75001
10	National Gallery	London
11	National Gallery Prague	Nové Měst
12	National Gallery of Art	Washington
13	National Gallery of Victoria	Melbourne
Total rows: 28 of 28		Query complete 00:00:00.095

Which museums are open every single day?

```
CREATE VIEW COUNTS AS
SELECT MH.MUSEUM_ID, M.NAME, COUNT(MH.MUSEUM_ID) AS NUMBER_OF_DAYS_OPEN
FROM MUSEUM_HOURS MH
JOIN MUSEUM M
ON MH.MUSEUM_ID = M.MUSEUM_ID
GROUP BY MH.MUSEUM_ID, M.NAME
HAVING COUNT(DAY) = 7;

SELECT * FROM COUNTS;
```

	<div><div>museum_id</div><div>bigint</div></div>	<div><div>name</div><div>text</div></div>	<div><div>number_of_days_open</div><div>bigint</div></div>
1	84	Musée d'Orsay	7
2	47	Rijksmuseum	7
3	44	Norton Simon Museum	7
4	62	The Tate Gallery	7
5	43	Nelson-Atkins Museum of Art	7
6	66	Philadelphia Museum of Art	7
7	31	Rijksmuseum	7
8	50	Kröller-Müller Museum	7
9	44	Cleveland Museum Of Art	7
10	50	Saint Louis Art Museum	7
11	82	Norton Simon Museum	7
12	44	Philadelphia Museum of Art	7
13	86	Musée du Louvre	7
Total rows: 969 of 969 Query complete 00:00:00.058			

Which are the top 5 most popular museum? (Popularity is defined based on most number of paintings in a museum)

```
SELECT M.MUSEUM_ID, M.NAME, COUNT(*) TOTAL_NUMBER_OF_PAINTINGS
FROM MUSEUM M
JOIN WORK W
ON M.MUSEUM_ID = W.MUSEUM_ID
GROUP BY M.MUSEUM_ID, M.NAME
ORDER BY COUNT(*) DESC
LIMIT 5;
```

<div>museum_id</div> <div>bigint</div>	<div>name</div> <div>text</div>	<div>total_number_of_paintings</div> <div>bigint</div>
35	The Metropolitan Museum of Art	939
43	Rijksmuseum	452
47	National Gallery	423
46	National Gallery of Art	375
51	The Barnes Foundation	350

Who are the top 5 most popular artist?

(Popularity is defined based on most number of paintings done by an artist)

```
SELECT A.ARTIST_ID, A.FULL_NAME, COUNT(*) AS TOTAL_NUMBER_OF_PAINTINGS
FROM ARTIST A
JOIN WORK W
ON A.ARTIST_ID = W.ARTIST_ID
GROUP BY A.ARTIST_ID, A.FULL_NAME
ORDER BY COUNT(*) DESC
LIMIT 5;
```

artist_id 	full_name 	total_number_of_paintings 
500	Pierre-Auguste Renoir	469
550	Claude Monet	378
677	Vincent Van Gogh	308
649	Maurice Utrillo	253
559	Albert Marquet	233

Which museum has the most number of most popular painting style?

```
SELECT M.NAME, W.STYLE, COUNT(*)
FROM MUSEUM M
JOIN WORK W
ON M.MUSEUM_ID = W.MUSEUM_ID
GROUP BY M.NAME, W.STYLE
ORDER BY COUNT(*) DESC
LIMIT 1;
```

name	style	count
text	text	bigint
The Metropolitan Museum of Art	Impressionism	244

Display the country and the city with most number of museums. Output 2 seperate columns to mention the city and country. If there are multiple values, seperate them with a comma

```
WITH CTE_COUNTRY AS
(SELECT COUNTRY, COUNT(1), RANK() OVER( ORDER BY COUNT(1) DESC) AS RNK
FROM MUSEUM
GROUP BY COUNTRY),
CTE_CITY AS
(SELECT CITY, COUNT(1), RANK() OVER(ORDER BY COUNT(1) DESC) AS RNK
FROM MUSEUM
GROUP BY CITY)

SELECT STRING_AGG(DISTINCT COUNTRY.COUNTRY,', ') as Country, STRING_AGG(CITY.CITY,', ') as Cities
FROM CTE_COUNTRY COUNTRY
CROSS JOIN CTE_CITY CITY
WHERE COUNTRY.RNK = 1 AND CITY.RNK = 1;
```

country	cities
text	text
USA	London, Washington, New York, Paris

Identify the artist and the museum where the most expensive and least expensive painting is placed. Display the artist name, sale price, painting name, museum name, museum city and canvas label



```
WITH CTE AS
  (SELECT *, RANK() OVER(ORDER BY SALE_PRICE DESC) AS RNK,
    RANK() OVER(ORDER BY SALE_PRICE) AS RNK_ASC
    FROM PRODUCT_SIZE)

SELECT W.NAME AS PAINTING, CTE.SALE_PRICE, A.FULL_NAME AS ARTIST,
M.NAME AS MUSEUM, M.CITY, CZ.LABEL AS CANVAS
FROM CTE
JOIN
WORK W ON W.WORK_ID = CTE.WORK_ID
JOIN MUSEUM M ON M.MUSEUM_ID = W.MUSEUM_ID
JOIN ARTIST A ON A.ARTIST_ID = W.ARTIST_ID
JOIN CANVAS_SIZE CZ ON CZ.SIZE_ID = CTE.SIZE_ID::NUMERIC
WHERE RNK = 1 OR RNK_ASC = 1;
```

painting text	sale_price bigint	artist text	museum text	city text	canvas text
Portrait of Madame Labille-Guyard and Her Pupils	10	Adélaïde Labille-Guiard	The Metropolitan Museum of Art	New York	30" Long Edge
Portrait of Madame Labille-Guyard and Her Pupils	10	Adélaïde Labille-Guiard	The Metropolitan Museum of Art	New York	36" Long Edge
Portrait of Madame Labille-Guyard and Her Pupils	10	Adélaïde Labille-Guiard	The Metropolitan Museum of Art	New York	30" Long Edge
Portrait of Madame Labille-Guyard and Her Pupils	10	Adélaïde Labille-Guiard	The Metropolitan Museum of Art	New York	36" Long Edge
Fortuna	1115	Peter Paul Rubens	The Prado Museum	Madrid	48" x 96"(122 cm x 244 cm)

Which country has the 5th highest number of paintings?

```
SELECT M.COUNTRY, COUNT(*) AS NUMBER_OF_PAINTINGS
FROM MUSEUM M
JOIN WORK W
ON M.MUSEUM_ID = W.MUSEUM_ID
GROUP BY M.COUNTRY
ORDER BY COUNT(*) DESC
OFFSET 4
LIMIT 1;
```



country 	number_of_paintings 
Spain	196

Which are the 2 most popular and 2 least popular painting styles?

```
(SELECT STYLE, COUNT(*) AS NO_OF_PAINTINGS, 'Most Popular' AS REMARKS
FROM WORK
GROUP BY STYLE
ORDER BY COUNT(*) DESC
LIMIT 2)

UNION

(SELECT STYLE, COUNT(*) AS NO_OF_PAINTINGS, 'Least Popular' AS REMARKS
FROM WORK
GROUP BY STYLE
ORDER BY COUNT(*) ASC
LIMIT 2);
```

style 	no_of_paintings 	remarks 
text	bigint	text
Art Nouveau	108	Least Popular
Post-Impressionism	1672	Most Popular
Japanese Art	70	Least Popular
Impressionism	3078	Most Popular

Which artist has the most number of Portrait paintings outside USA? Display artist name, number of paintings and the artist nationality.

```
SELECT A.FULL_NAME, A.NATIONALITY, COUNT(*) AS NO_OF_PAINTINGS
FROM WORK W
JOIN ARTIST A ON A.ARTIST_ID = W.ARTIST_ID
JOIN SUBJECT S ON S.WORK_ID = W.WORK_ID
JOIN MUSEUM M ON M.MUSEUM_ID = W.MUSEUM_ID
WHERE M.COUNTRY <> 'USA' AND S.SUBJECT = 'Portraits'
GROUP BY A.FULL_NAME, A.NATIONALITY
ORDER BY COUNT(*) DESC
LIMIT 1;
```

full_name	nationality	no_of_paintings
text	text	bigint
Jan Willem Pieneman	Dutch	14



Thank You!