

# -- 22) Which artist has the most no of Portraits paintings outside USA?. Display artist name, no of paintings and the artist nationality.

with cte as(
select a.full\_name, a.nationality
,count(1) as no\_of\_paintings
,rank() over(order by count(1) desc) as rnk
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 s.subject='Portraits'
and m.country != 'USA'
group by a.full\_name, a.nationality)

select full\_name as artist\_name, nationality, no\_of\_paintings from cte where rnk = 1



#### -- 21) Which are the 3 most popular and 3 least popular painting styles?

with cte as(

select style,

dense\_rank() over(order by count(\*) desc) as most

from work

where style is not null

group by style),

cte2 as(select style, dense\_rank() over(order by count(\*) asc) as lowest3 from work where style is not null group by style)

select style,

case when most <= 3 then 'most\_popular' end as remarks

from cte

where most  $\leq 3$ 

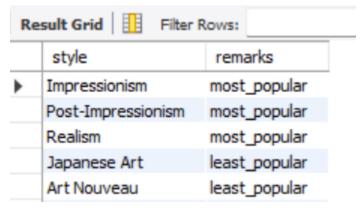
union all

select style,

case when lowest3 <=3 then 'least\_popular' end as remarks

from cte2

where lowest3 <= 3;



#### -- 20) Which country has the 5th highest no of paintings?

with cte as(

select m.country,

count(\*) as no\_of\_Paintings,

rank() over(order by count(\*) desc) as rnk

from work w

join museum m on m.museum\_id=w.museum\_id

group by m.country)

select country, no\_of\_Paintings from cte where rnk = 5

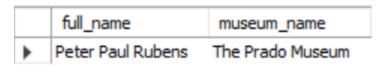
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country no_of_Paintings

Spain 196
```

# -- 19) Identify the artist and the museum where the most expensive and least expensive painting is placed.

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-- most expensive
with cte as(
select work_id,sale_price,
dense_rank() over(order by sale_price desc) as rnk
from product_size)

select a.full_name, m.name as museum_name
from work w
join artist a on a.artist_id = w.artist_id
join museum m on m.museum_id = w.museum_id
where work_id in (select work_id from cte where rnk = 1);
```



-- least expensive
with cte as(
select work\_id,sale\_price,
dense\_rank() over(order by sale\_price asc) as rnk
from product\_size)

select a.full\_name, m.name as museum\_name from work w join artist a on a.artist\_id = w.artist\_id join museum m on m.museum\_id = w.museum\_id where work\_id in (select work\_id from cte where rnk = 1);



- 18) Display the country and the city with most no of museums.

select country, city, count(museum\_id) as total\_museum from museum group by country,city;

	country	city	total_museum
•	USA	New York	3
	Russia	Moscow	1
	Australia	Melbourne	1
	Brazil	São Paulo	1
	Russia	2	1

## -- 17) Identify the artists whose paintings are displayed in multiple countries

with cte as (
select w.artist\_id, full\_name, count(distinct country) as cnt
from work w
join museum m on m.museum\_id = w.museum\_id
join artist a on a.artist\_id = w.artist\_id
group by w.artist\_id, full\_name)

select full\_name,cnt as countries\_displayed from cte where cnt > 1 order by cnt desc;

	full_name	countries_displayed
•	Vincent Van Gogh	8
	Claude Monet	7
	Paul Gauguin	7
	Pierre-Auguste Renoir	6
	Francois Boucher	6

#### -- 16) Which museum has the most no of most popular painting style?

with cte as(
select style,count(\*)
,rank() over(order by count(\*) desc) as rnk
from work
group by style),

cte2 as(
select museum\_id, count(\*) as total,
dense\_rank() over(order by count(\*) desc) as rn
from work
where style = (select style from cte where rnk = 1) and museum\_id is not null
group by museum\_id)

select c.museum\_id, name as museum\_name, total from cte2 c
join museum m on m.museum\_id = c.museum\_id
where rn = 1;



# -- 15) Which museum is open for the longest during a day. Dispay museum name, state and hours open and which day?

with cte as(

select museum\_id,

str\_to\_date(open, '%h:%i:%p') as open\_time,

str to date(close, '%h:%i:%p') as close time,

timediff(str\_to\_date(close, '%h:%i:%p'), str\_to\_date(open, '%h:%i:%p')) as open\_duration, dense rank() over(order by timediff(str\_to\_date(close, '%h:%i:%p'), str\_to\_date(open,

'%h:%i:%p')) desc) as rnk

from museum\_hours)

select m.name, m.state, open\_duration from cte c join museum m on m.museum\_id = c.museum\_id where rnk = 1;



#### -- 14) Display the 3 least popular canvas sizes

with cte as(
select size\_id, count(\*) as cnt,
dense\_rank() over(order by count(\*)) as rnk
from product\_size

group by size\_id)

select c.size\_id, c2.label as canvas\_name from cte c join canvas\_size c2 on c2.size\_id = c.size\_id where rnk <=3;

	size_id	canvas_name	
•	3218	32" x 18"(81 cm x 46 cm)	
	4434	44" x 34"(112 cm x 86 cm)	
	2429	24" x 29"(61 cm x 74 cm)	
	3730	37" x 30"(94 cm x 76 cm)	
	3627	36" x 27"(91 cm x 69 cm)	
	302/	36 X 27 (91 dil X 69 dil)	

# -- 13) Who are the top 5 most popular artist? (Popularity is defined based on most no of paintings done by an artist)

with cte as (
select artist\_id, count(\*) as cnt,
dense\_rank() over(order by count(\*) desc) as rnk
from work
group by artist\_id)

select c.artist\_id, a.full\_name, cnt as total\_paintings from cte c join artist a on a.artist\_id = c.artist\_id where rnk <= 5;

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

# -- 12) Which are the top 5 most popular museum? (Popularity is defined based on most no of paintings in a museum)

with cte as(
select museum\_id,count(\*) as cnt,
dense\_rank() over(order by count(\*) desc) as rnk
from work

where museum\_id is not null group by museum\_id)

select c.museum\_id, m.name
from cte c
join museum m on m.museum\_id = c.museum\_id
where rnk<=5;</pre>

	museum_id	name
•	35	The Metropolitan Museum of Art
	43	Rijksmuseum
	46	National Gallery of Art
	47	National Gallery
	51	The Barnes Foundation

#### -- 11) How many museums are open every single day?

select count(museum\_id) from(
select museum\_id,count(distinct day) as cnt
from museum\_hours
group by museum\_id)a
where cnt = 7;

	count(museum_id)
•	17

## -- 9) Fetch the top 10 most famous painting subject

with cte as(
select s.subject, count(\*) as total,
dense\_rank() over(order by count(\*) desc) as rnk
from work w
join subject s on s.work\_id = w.work\_id
group by s.subject)

select subject from cte where rnk < 11;

	subject
•	Portraits
	Abstract/Modern Art
	Nude
	Landscape Art
	Rivers/Lakes

#### -- 8) Museum\_Hours table has 1 invalid entry. Identify it and remove it.

with cte as(
select museum\_id,day,
row\_number() over(partition by museum\_id, day) as rn
from museum\_hours)
delete from cte where rn > 1;

### -- 7) Identify the museums with invalid city information in the given dataset

select name as musuem\_name, city from museum where city regexp '[0-9]' or city is null;

	musuem_name	city
•	The State Hermitage Museum	2
	Museum Folkwang	45128
	Museum of Grenoble	38000
	Musée des Beaux-Arts de Quimper	29000
	Musée du Louvre	75001

#### -- 6) Delete duplicate records from work, product\_size, subject and image\_link tables

with cte as(
select work\_id,
row\_number() over(partition by work\_id) as rn
from work)
delete from cte where rn > 1

#### -- 5) Which canva size costs the most?

with size\_cost as(
select size\_id,sale\_price,
dense\_rank() over(order by sale\_price desc) as rnk
from product\_size)

select a.size\_id,label,a.sale\_price
from size\_cost a
join canvas\_size b on a.size\_id = b.size\_id
where rnk = 1;
select work\_id,count(\*)
from work
group by work\_id;

	size_id	label	sale_price
•	4896	48" x 96"(122 cm x 244 cm)	1115

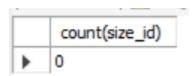
### -- 4) Identify the paintings whose asking price is less than 50% of its regular price

select \* from work;
select p.work\_id,name from product\_size p
join work w on w.work\_id = p.work\_id
where sale\_price < (regular\_price/2);</pre>

work_id	name
31974	Taking the Census
17351	The Chalon Family in London
17351	The Chalon Family in London
17351	The Chalon Family in London
30947	Ducks Resting in Sunshine

## -- 3) How many paintings have an asking price of more than their regular price?

select count(size\_id) from product\_size where sale\_price >regular\_price;



#### -- 2) Are there museuems without any paintings?

select m.museum\_id, name

from museum m

where m.museum\_id not in(select distinct museum\_id from work);



-- 1) Fetch all the paintings which are not displayed on any museums? select count(\*) from work where museum\_id is null;

