



-- 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
```

Result Grid Filter Rows: Export:			
	artist_name	nationality	no_of_paintings
▶	Jan Willem Pieneman	Dutch	14
	Vincent Van Gogh	Dutch	14


-- 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 <= 3
union all
select style,
case when lowest3 <=3 then 'least_popular' end as remarks
from cte2
where lowest3 <= 3;
```

Result Grid  Filter Rows: <input type="text"/>		
	style	remarks
▶	Impressionism	most_popular
	Post-Impressionism	most_popular
	Realism	most_popular
	Japanese Art	least_popular
	Art Nouveau	least_popular

-- 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
```

	country	no_of_Paintings
▶	Spain	196

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

```
-- 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);
```

	full_name	museum_name
▶	Peter Paul Rubens	The Prado Museum

```
-- 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);
```

	full_name	museum_name
▶	Adélaïde Labille-Guiard	The Metropolitan Museum of Art

-- 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 rn = 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;
```

	museum_id	museum_name	total
▶	35	The Metropolitan Museum of Art	244

-- 15) Which museum is open for the longest during a day. Display 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 rn
from museum_hours)
```

```
select m.name, m.state, open_duration
from cte c
join museum m on m.museum_id = c.museum_id
where rn = 1;
```

	name	state	open_duration
▶	Musée du Louvre	Paris	12:45:00

-- 14) Display the 3 least popular canvas sizes

```
with cte as(
select size_id, count(*) as cnt,
dense_rank() over(order by count(*)) as rn
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)

-- 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;
```

	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);
```

	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;
```

	count(size_id)
▶	0

-- 2) Are there museums without any paintings?

```
select m.museum_id, name
from museum m
where m.museum_id not in(select distinct museum_id from work);
```

Result Grid   Filter Row		
	museum_id	name

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

	count(*)
▶	10223