



-- 1) Fetch all the paintings which are not displayed on any museums?

```
select count(*) from work where museum_id is null;
```

| Result Grid | |
|-------------|----------|
| | count(*) |
| ▶ | 10104 |

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 Rows: |
|-------------|-----------|--------------|
| | museum_id | name |

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;
```

Result Grid

Filter Rows:

| | count(size_id) |
|---|----------------|
| ▶ | 0 |

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

```
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);
```

| Result Grid | | Filter Rows: | | |
|-------------|---------|--------------|------------|---------------|
| | work_id | size_id | sale_price | regular_price |
| ▶ | 31780 | 36 | 10 | 125 |
| | 31780 | 30 | 10 | 95 |
| | 31780 | 36 | 10 | 125 |
| | 31780 | 30 | 10 | 95 |
| | 198417 | 36 | 30 | 125 |
| | 198417 | 30 | 30 | 95 |
| | 31974 | 24 | 30 | 85 |
| | 17351 | 24 | 10 | 85 |
| | 17351 | 30 | 10 | 95 |
| | 17351 | 36 | 10 | 125 |
| | 30947 | 3024 | 285 | 575 |
| | 30947 | 3226 | 305 | 645 |
| | 23710 | 30 | 20 | 95 |
| | 23710 | 24 | 20 | 85 |
| | 20084 | 6040 | 585 | 1245 |
| | 133971 | #VAL... | 1025 | 2235 |
| | 28259 | 30 | 40 | 95 |

5) Which canva size costs the most?

```
select label as canvas, p.sale_price
from (
select *, rank() over(order by sale_price desc) as rn
from product_size) p
join canvas_size c
on c.size_id=p.size_id
where p.rn=1;
```

| Result Grid | Filter Rows: |
|----------------------------|--------------|
| canvas | sale_price |
| 48" x 96"(122 cm x 244 cm) | 1115 |

6) Delete duplicate records from work, product_size, subject and image_link table

```
with cte as(
select work_id,
row_number() over(partition by work_id) as rn
from work)
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;
```

| Result Grid | Filter Rows: | Exp |
|-------------|---------------------------------|-----------------|
| 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 |
| | Kröller-Müller Museum | 6731 AW Otterlo |

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;
```

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;
```

| | |
|---------------------|--------------|
| Result Grid | Filter Rows: |
| subject | |
| ▶ Portraits | |
| Nude | |
| Landscape Art | |
| Flowers | |
| Abstract/Modern Art | |
| Still-Life | |
| Rivers/Lakes | |
| Horses | |
| Seascapes | |
| Marine Art/Maritime | |
| Gardens | |
| Christianity | |
| Winter | |

10. Identify the museums which are open on both sunday and monday. Display museum name, city

select distinct m.name as museum_name, m.city, m.state,m.country

from museum_hours mh

join museum m on m.museum_id=mh.museum_id



where day='Sunday'

and exists (select 1 from museum_hours mh2


where mh2.museum_id=mh.museum_id

and mh2.day='Monday');

Result Grid

  Filter Rows:

Export:

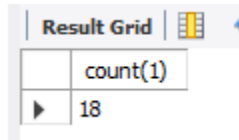


Wrap Cell Cont

| | museum_name | city | state | country |
|---|-----------------------------------|--------------|----------|----------------|
| ▶ | The Museum of Modern Art | New York | NY | USA |
| | Pushkin State Museum of Fine Arts | Moscow | NULL | Russia |
| | National Gallery of Victoria | Melbourne | Victoria | Australia |
| | The Metropolitan Museum of Art | New York | NY | USA |
| | Museum of Grenoble | 38000 | Grenoble | France |
| | Nelson-Atkins Museum of Art | Kansas City | MO | USA |
| | Musée du Louvre | 75001 | Paris | France |
| | National Maritime Museum | London | SE10 9NF | United Kingdom |
| | Museum of Fine Arts Boston | Boston | MA | USA |
| | Rijksmuseum | Amsterdam | NULL | Netherlands |
| | Israel Museum | Jerusalem | NULL | Israel |
| | National Gallery of Art | Washington | DC | USA |
| | National Gallery | London | England | UK |
| | Mauritshuis Museum | Den Haag | NULL | Netherlands |
| | The Prado Museum | Madrid | NULL | Spain |
| | The Barnes Foundation | Philadelphia | PA | USA |
| | Van Gogh Museum | Amsterdam | NULL | Netherlands |

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;
```

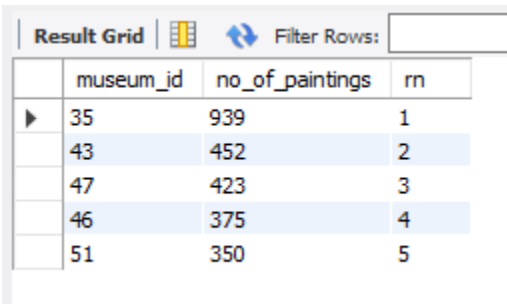


| Result Grid | |
|-------------|----------|
| | count(1) |
| ▶ | 18 |

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;
```



| Result Grid | | | |
|-------------|-----------|-----------------|----|
| | museum_id | no_of_paintings | rn |
| ▶ | 35 | 939 | 1 |
| | 43 | 452 | 2 |
| | 47 | 423 | 3 |
| | 46 | 375 | 4 |
| | 51 | 350 | 5 |

13. Who are the top 5 most popular artist? (popularity is defined based on most no of paintings done by artist)

```
select * from (
select a.artist_id, count(*) as no_of_paintings , rank() over (order by count(*) desc) as rn
from work w
inner join artist a
on a.artist_id= w.artist_id
group by a.artist_id)a
where a.rn<=5;
```

| Result Grid | | | |
|--------------|-----------|-----------------|----|
| Filter Rows: | | | |
| | artist_id | no_of_paintings | rn |
| ▶ | 500 | 469 | 1 |
| | 550 | 378 | 2 |
| | 677 | 308 | 3 |
| | 649 | 253 | 4 |
| | 559 | 233 | 5 |

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;
```


| Result Grid | | |
|--------------|---------|----------------------------|
| Filter Rows: | | |
| | 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) |
| | 4635 | 46" x 35"(117 cm x 89 cm) |
| | 3246 | 32" x 46"(81 cm x 117 cm) |
| | 4532 | 45" x 32"(114 cm x 81 cm) |
| | 3232 | 32" x 32"(81 cm x 81 cm) |
| | 7171 | 71" x 71"(180 cm x 180 cm) |

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 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;
```

| | | | | |
|-------------|---|--------------|----------------------|----|
| Result Grid |  | Filter Rows: | <input type="text"/> | Ex |
| | name | state | open_duration | |
| ▶ | Musée du Louvre | Paris | 12:45:00 | |

16. Which museum has the most no of most popular painting style?

```
select * from (
select m.name as museum_name, style, count(*)
      ,rank() over(order by count(1) desc) as rnk
from work w
inner join museum m
on m.museum_id=w.museum_id
group by style,m.name) a
where a.rnk=1;
```

| | | | | | | |
|-------------|---|--|---------------|----------|---|------|
| Result Grid |  |  Filter Rows: | | Export: |  | Wrap |
| | museum_name | | style | count(*) | rnk | |
| ▶ | The Metropolitan Museum of Art | | Impressionism | 244 | 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;
```

| Result Grid | | | Filter Rows: | Export |
|-------------|-----------------------|---------------------|--------------|--------|
| | full_name | countries_displayed | | |
| ▶ | Vincent Van Gogh | 8 | | |
| | Claude Monet | 7 | | |
| | Paul Gauguin | 7 | | |
| | Pierre-Auguste Renoir | 6 | | |
| | Francois Boucher | 6 | | |
| | Rembrandt Van Rijn | 6 | | |
| | Camille Pissarro | 5 | | |
| | Peter Paul Rubens | 5 | | |
| | Édouard Vuillard | 5 | | |
| | El Greco | 5 | | |
| | Alfred Sisley | 5 | | |
| | Edgar Degas | 5 | | |
| | André Derain | 5 | | |
| | Francisco De Goya | 5 | | |
| | Frans Hals | 5 | | |
| | Leonardo Da Vinci | 5 | | |
| | Eugène-Louis Boudin | 4 | | |

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;
```

| Result Grid | | | | Filter Rows: |
|-------------|-------------|-------------|--------------|--------------|
| | country | city | total_museum | |
| ▶ | USA | New York | 3 | |
| | Russia | Moscow | 1 | |
| | Australia | Melbourne | 1 | |
| | Brazil | São Paulo | 1 | |
| | Russia | 2 | 1 | |
| | Germany | 45128 | 1 | |
| | France | 38000 | 1 | |
| | France | 29000 | 1 | |
| | USA | Kansas City | 1 | |
| | France | 75001 | 1 | |
| | United K... | London | 1 | |
| | USA | Boston | 1 | |
| | Netherl... | Amsterdam | 2 | |
| | Israel | Jerusalem | 1 | |
| | Switzerl... | Zurich | 1 | |
| | USA | Washington | 3 | |
| | UK | London | 2 | |

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);
```

| Result Grid | | Filter Rows: | Ex |
|-------------|-------------------|------------------|----|
| | full_name | museum_name | |
| ▶ | Peter Paul Rubens | The Prado Museum | |

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;
```

| Result Grid | | Filter Rows: |
|-------------|---------|-----------------|
| | country | no_of_Paintings |
| ▶ | Spain | 196 |