```sql
use sakila;

select count(*) from film;
select count(film_id) from film;
select count(release_year) from film;
-- This will count number of null values in release_year column
select count(*) from film where release_year is NULL;

select count("Hey") from film;
select "Hey" from film;

select count(1) from film;
select 1 from film;

--  find avg rental_rate of all the movies

select avg(rental_rate) from film
where rental_rate > 1.0;

-- where is applied before the aggregate function

select count(distinct release_year) from film;

select max(rental_rate) from film;

select bit_and(film_id) as AND_VALUE, sum(film_id) , avg(release_year) ,
film_id as SUM from film;
select sum(film_id) from film;

select release_year , count(release_year) from film;
-- Error Code: 1140. In aggregated query without GROUP BY, expression #1 of
SELECT list contains nonaggregated column 'sakila.film.release_year'; this
is incompatible with sql_mode=only_full_group_by

select rental_rate , count(*)
from film
group by release_year;


select distinct count(*)
from film
group by release_year;
```

```sql
select release_year , count(*) as cnt
from film
group by release_year
order by release_year;

select release_year , count(*) as cnt, avg(rental_rate) , min(rental_rate)
from film
group by release_year
order by avg(rental_rate);

select release_year , count(*)
from film
group by film_id
order by release_year;

-- group by on mutliple columns as well

select release_year, rental_rate , count(*)
from film
group by release_year, rental_rate;

select release_year, rental_rate , count(*)
from film
group by 1, 2
order by 3;

select rental_duration , count(*) as cnt
from film
group by rental_duration
having cnt >= 100;

-- List the customers who have made at least 30 rentals, and for each of
-- these customers,
-- display their customer ID and the count of rentals they've made

-- For every customer find the number of rentals

select customer.customer_id , customer.first_name, count(*) as cnt
from rental
join customer on customer.customer_id = rental.customer_id
group by rental.customer_id
having cnt >= 30;
```

```sql
-- Error Code: 1054. Unknown column 'customer.customer_name' in 'field
list'

-- Retrieve the total revenue earned by each film category,
-- but only include categories where the total
-- revenue is greater than $1,000. Order the results by revenue in
-- descending order.


-- payment * rental
-- rental * inventory
-- inventory * film
-- film * film_category
-- film_category * category

select category.name , sum(amount) as revenue
from payment
join rental using (rental_id)
join inventory using (inventory_id)
join film using (film_id)
join film_category using (film_id)
join category using (category_id)
group by category.name
having revenue >= 1000
order by revenue desc;



-- Find the actors who have appeared in at least two films together
-- (i.e., they share at least one film ID).
-- Display the actor IDs, names and the number of films they have appeared
in
-- together.
```