**-- 1.1. Contribution of Countries & Cities (in hierarchy) by rental amount**

SELECT co.COUNTRY, ci.CITY,sum(pay.amount) as "Rental Amount"

FROM PAYMENT pay

INNER JOIN customer c on c.customer\_id = pay.customer\_id

INNER JOIN address ad on ad.address\_id = c.address\_id

INNER JOIN city ci on ci.city\_id = ad.city\_id

INNER JOIN country co ON co.country\_id = ci.country\_id

group by co.country, ci.city

order by ci.city;

**-- 1.2. Rental amounts by countries for PG & PG-13 rated films**

SELECT country, rating,sum(pay.amount) as Rental\_Amounts from country co

INNER JOIN city ci on co.country\_id = ci.country\_id

INNER JOIN address ad on ci.city\_id = ad.city\_id

INNER JOIN customer cus on ad.address\_id = cus.address\_id

INNER JOIN payment pay on cus.customer\_id = pay.customer\_id

INNER JOIN rental r ON pay.rental\_id = r.rental\_id

INNER JOIN inventory i ON r.inventory\_id = i.inventory\_id

INNER JOIN film f ON f.film\_id = i.film\_id

WHERE rating in ('PG','PG-13')

group by country

order by Rental\_Amounts desc;

**-- 1.3 Top 20 cities by number of customers who rented**

SELECT c.city, count(cus.customer\_id) as Customer from city c

join address a on c.city\_id = a.city\_id -- only city and address connected

join customer cus on a.address\_id = cus.address\_id -- only customer and address connected

join rental r on r.customer\_id = cus.customer\_id

group by c.city

order by customer desc

limit 0,20;

**-- 1.4. Top 20 cities by number of films rented**

select city,count(i.film\_id) as TOTAL from country co

INNER JOIN city ci on co.country\_id = ci.country\_id

INNER JOIN address ad on ci.city\_id = ad.city\_id

INNER JOIN customer cus on ad.address\_id= cus.address\_id

INNER JOIN rental r on cus.customer\_id = r.customer\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

group by i.film\_id

order by TOTAL desc

limit 20;

**-- 1.5 Rank cities by average rental cost**

SELECT c.city, AVG(pay.amount), dense\_rank() over (order by AVG(pay.amount) desc) from payment pay

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN customer cus on r.customer\_id = cus.customer\_id

INNER JOIN address a on cus.address\_id = a.address\_id

INNER JOIN city c on a.city\_id = c.city\_id

group by c.city;

**-- 2.1. Film categories by rental amount (ranked) & rental quantity**

SELECT cat.name, sum(pay.amount) as rental\_amount, count(r.rental\_id) as rental\_quantity, dense\_rank() over (order by AVG(pay.amount) desc) from category cat

INNER JOIN film\_category fc on cat.category\_id = fc.category\_id

INNER JOIN film f on fc.film\_id = f.film\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment pay on r.rental\_id = pay.rental\_id

group by cat.name

order by rental\_quantity, rental\_amount desc;

**-- 2.2. Film categories by rental amount (ranked)**

SELECT cat.name, sum(pay.amount) as rental\_amount, dense\_rank() over (order by AVG(pay.amount) desc) from category cat

INNER JOIN film\_category fc on cat.category\_id = fc.category\_id

INNER JOIN film f on fc.film\_id = f.film\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment pay on r.rental\_id = pay.rental\_id

group by cat.name

order by rental\_amount desc;

**-- 2.3 Film categories by average rental amount (ranked)**

SELECT cat.name, avg(pay.amount) as rental\_amount, dense\_rank() over (order by AVG(pay.amount) desc) from category cat

INNER JOIN film\_category fc on cat.category\_id = fc.category\_id

INNER JOIN film f on fc.film\_id = f.film\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment pay on r.rental\_id = pay.rental\_id

group by cat.name

order by rental\_amount desc;

**-- 2.4. Contribution of Film Categories by number of customers**

SELECT fc.category\_id, count(cus.customer\_id) as "Number of customers" from film\_category fc

INNER JOIN film f on fc.film\_id = f.film\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN customer cus on r.customer\_id = r.customer\_id

group by fc.category\_id;

**-- 2.5 Contribution of Film Categories by rental amount**

SELECT fc.category\_id, sum(pay.amount) as "Rental Amount" from film\_category fc

INNER JOIN film f on fc.film\_id = f.film\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment pay on r.rental\_id = pay.rental\_id

group by fc.category\_id;

**-- 3.1. List Films with rental amount, rental quantity, rating, rental rate, replacement cost and category name**

SELECT f.title, sum(p.amount), count(r.rental\_id), f.rating, avg(f.rental\_rate), avg(f.replacement\_cost), cat.name from film f

INNER JOIN film\_category fc on fc.film\_id = f.film\_id

INNER JOIN category cat on cat.category\_id = fc.category\_id

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment p on r.rental\_id = p.rental\_id

group by f.title, f.rating, cat.name;

**-- 3.2 List top 10 Films by rental amount (ranked)**

SELECT title, sum(pay.amount) as rental\_amount, dense\_rank() over (order by AVG(pay.amount) desc) as rental\_amount\_ranked from film f

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment pay on r.rental\_id = pay.rental\_id

group by title

limit 0,10;

**-- 3.3. List top 20 Films by number of customers (ranked)**

SELECT title, count(pay.customer\_id) as number\_of\_customers\_ranked from payment pay

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

INNER JOIN film f on i.film\_id = f.film\_id

group by title

order by number\_of\_customers\_ranked desc

limit 20;

**-- 3.4. List Films with the word “punk” in title with rental amount and number of customers**

SELECT f.title, sum(p.amount), count(c.customer\_id) from film f

INNER JOIN inventory i on f.film\_id = i.film\_id

INNER JOIN rental r on i.inventory\_id = r.inventory\_id

INNER JOIN payment p on r.customer\_id = p.customer\_id

INNER JOIN customer c on p.customer\_id = c.customer\_id

where f.title like '%punk%'

group by f.title;

**-- 3.5. Contribution by rental amount for films with a documentary category**

SELECT f.title, sum(pay.amount), cat.name from payment pay

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

INNER JOIN film f on i.film\_id = f.film\_id

INNER JOIN film\_category fc on f.film\_id = fc.film\_id

INNER JOIN category cat on fc.category\_id = cat.category\_id

where cat.name like '%documentary%'

group by f.title;

**-- 4.1 List Customers (Last name, First Name) with rental amount, rental quantity, active status, country and city**

SELECT concat(cus.last\_name, " " , cus.first\_name) as Customer\_name, sum(pay.amount) as rental\_amount, count(r.rental\_id) as rental\_quantity, cus.active, co.country, ci.city from customer cus

INNER JOIN payment pay on cus.customer\_id = pay.customer\_id

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN customer c on r.customer\_id = c.customer\_id

INNER JOIN address ad on c.address\_id = ad.address\_id

INNER JOIN city ci on ad.city\_id = ci.city\_id

INNER JOIN country co on ci.country\_id = co.country\_id

group by cus.active,co.country\_id, ci.city\_id

order by Customer\_name, rental\_amount, rental\_quantity;

**-- 4.2. List top 10 Customers (Last name, First Name) by rental amount (ranked) for PG & PG-13 rated films**

SELECT concat(cus.last\_name," ",cus.first\_name) as Customer\_name, sum(pay.amount) as Rental\_amount, f.rating as rating from customer cus

INNER JOIN payment pay on cus.customer\_id = pay.customer\_id

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

INNER JOIN film f on i.film\_id = f.film\_id

WHERE rating IN ('PG','PG-13')

group by Customer\_name, rating

order by rental\_amount desc

limit 0,10;

**-- 4.3. Contribution by rental amount for customers from France, Italy or Germany**

SELECT sum(pay.amount) as Rental\_amount, concat(cus.last\_name," ",cus.first\_name) as Customer, Country from payment pay

INNER JOIN customer cus on pay.customer\_id = cus.customer\_id

INNER JOIN address ad on cus.address\_id = ad.address\_id

INNER JOIN city ci on ad.city\_id = ci.city\_id

INNER JOIN country co on ci.country\_id = co.country\_id

WHERE Country IN ('France','Italy','Germany')

GROUP by country;

**-- 4.4. List top 20 Customers (Last name, First Name) by rental amount (ranked) for comedy films**

SELECT concat(cus.last\_name," ",cus.first\_name) as Customer, sum(pay.amount) as Rental\_amount, cat.name as Category from customer cus

INNER JOIN payment pay on cus.customer\_id = pay.customer\_id

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

INNER JOIN film f on i.film\_id = f.film\_id

INNER JOIN film\_category fc on f.film\_id = fc.film\_id

INNER JOIN category cat on fc.category\_id = cat.category\_id

where cat.name = 'Comedy'

group by Customer

order by Rental\_amount desc

limit 0,20;

**-- 4.5. List top 10 Customers (Last name, First Name) from China by rental amount (ranked) for films that have replacement costs greater than $24**

SELECT concat(cus.last\_name," ",cus.first\_name) as Customer, sum(pay.amount) as Rental\_amount, co.country as Country from country co

INNER JOIN city ci on co.country\_id = ci.country\_id

INNER JOIN address ad on ci.city\_id = ad.city\_id

INNER JOIN customer cus on ad.address\_id = cus.address\_id

INNER JOIN payment pay on cus.customer\_id = pay.customer\_id

INNER JOIN rental r on pay.rental\_id = r.rental\_id

INNER JOIN inventory i on r.inventory\_id = i.inventory\_id

INNER JOIN film f on i.film\_id = f.film\_id

where co.country = 'China' and f.replacement\_cost > 24

group by Customer, Country

order by Rental\_amount desc

limit 0,10;