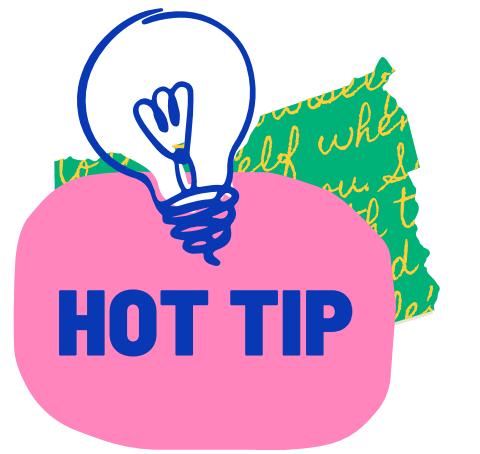


# DVD RENTAL DATABASE





## INTRODUCTION

In the early 2000s, the DVD Rental business became one of the businesses that was quite popular among business people. The DVD rental business is a business that provides DVD rental services with various genres enjoyed by its customers. Over time, the DVD rental business has decreased in demand, so new steps are needed to increase the number of customers. By utilizing data, it is expected to produce good and accurate information so that it can create new steps that are right on target.

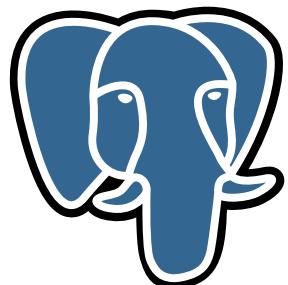


# DATA SET

The database DvdRental has 15 tables. Below are the different tables and a brief description of them.

- actor – contains actors data including first name and last name.
- film – contains films data such as title, release year, length, rating, etc.
- film\_actor – contains the relationships between films and actors.
- category – contains film's categories data.
- film\_category – containing the relationships between films and categories.
- store – contains the store data including manager staff and address.
- inventory – stores inventory data.
- rental – stores rental data.
- payment – stores customer's payments.
- staff – stores staff data.
- customer – stores customer's data.
- address – stores address data for staff and customers
- city – stores the city names.
- country – stores the country names.

# TOOL



PostgreSQL



# GOALS

In this project, I will attempt to answer the following questions:

1

**Identify the top 10 customers and their email so we can reward them!**

2

**Identify the bottom 10 customers and their emails!**

3

**What are the most profitable movie genres (ratings)?**

4

**How many rented movies were returned late, early, and on time?**

5

**What is the customer base in the countries where we have a presence?**

6

**Which country is the most profitable for the business?**

7

**What is the average rental rate per movie genre (rating)?**

```

with customer as (select *,first_name || ' ' || last_name as Nama
from customer)
select Nama, email, sum(amount) as Total_Pembayaran
from customer
join payment on customer.customer_id=payment.customer_id
group by Nama,email
order by Total_Pembayaran desc
limit 10

```

	nama text	email character varying (50)	total_pembayaran numeric
1	Eleanor Hunt	eleanor.hunt@sakilacustomer.org	211.55
2	Karl Seal	karl.seal@sakilacustomer.org	208.58
3	Marion Snyder	marion.snyder@sakilacustomer.org	194.61
4	Rhonda Kenne...	rhonda.kennedy@sakilacustomer....	191.62
5	Clara Shaw	clara.shaw@sakilacustomer.org	189.60
6	Tommy Collazo	tommy.collazo@sakilacustomer.org	183.63
7	Ana Bradley	ana.bradley@sakilacustomer.org	167.67
8	Curtis Irby	curtis.irby@sakilacustomer.org	167.62
9	Marcia Dean	marcia.dean@sakilacustomer.org	166.61
10	Mike Way	mike.way@sakilacustomer.org	162.67

## Identify the top 10 customers and their email so we can reward them!

The ten customers of the Movie Rental DVD store who deserve to be rewarded are Eleanor Hunt, Karl Seal, Marion Snyder, Rhonda, Clara Shaw, Tommy Collazo, Ana Bradley, Curtis Irby, Marcia Dean and Mike Way.

The selection of customers is based on the customers who have the largest total payment during their time as a customer of the DVD Rental Film store.



```

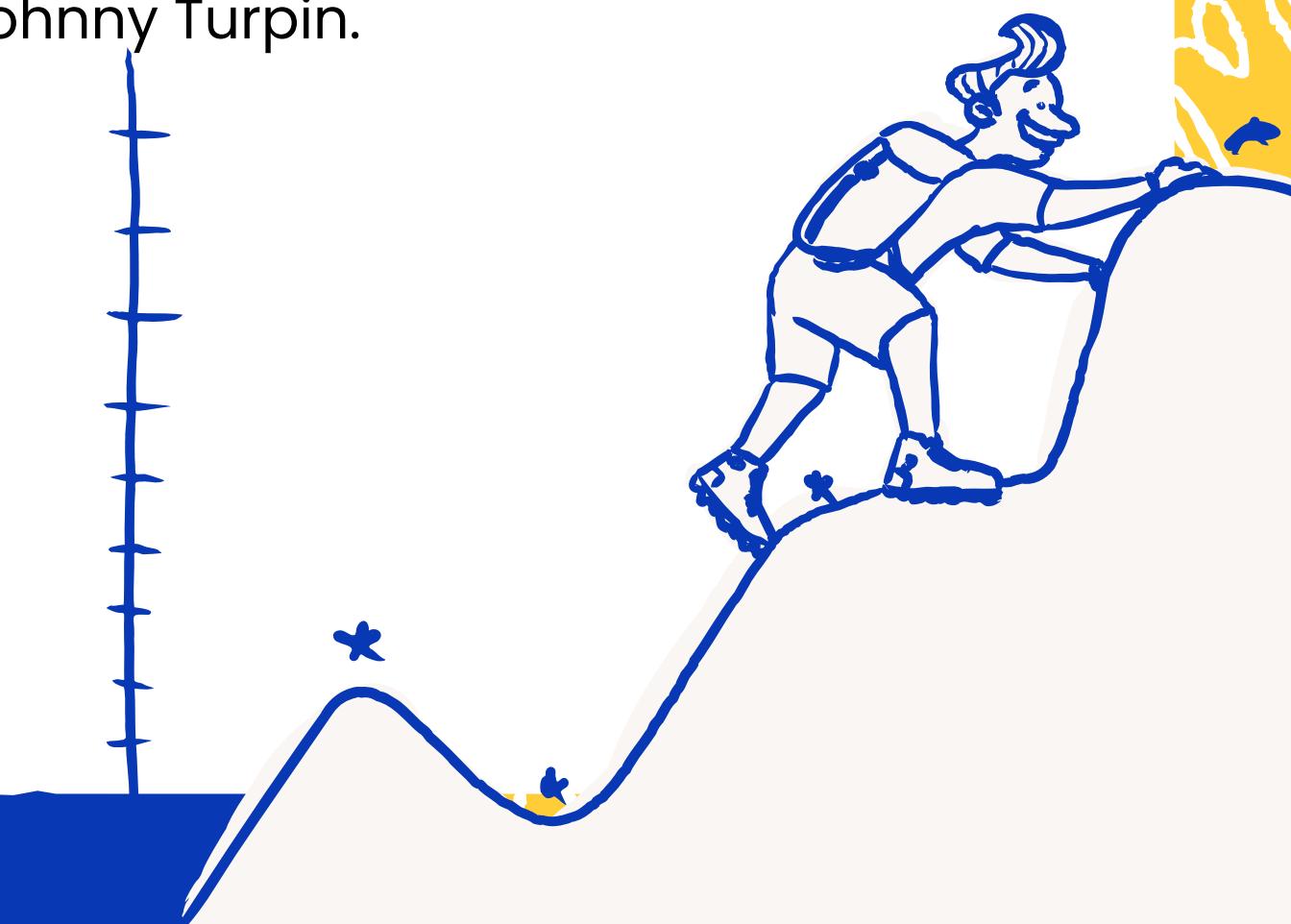
with customer as (select *,first_name || ' ' || last_name as Nama
from customer)
select Nama, email, sum(amount) as Total_Pembayaran
from customer
join payment on customer.customer_id=payment.customer_id
group by Nama,email
order by Total_Pembayaran asc
limit 10

```

	nama text	email character varying (50)	total_pembayaran numeric
1	Brian Wyman	brian.wyman@sakilacustomer.org	27.93
2	Leona Obrien	leona.obrien@sakilacustomer.org	32.90
3	Caroline Bowman	caroline.bowman@sakilacustomer.org	37.87
4	Anthony Schwab	anthony.schwab@sakilacustomer.org	47.85
5	Tiffany Jordan	tiffany.jordan@sakilacustomer.org	49.88
6	Kirk Stclair	kirk.stclair@sakilacustomer.org	50.83
7	Bobbie Craig	bobbie.craig@sakilacustomer.org	52.81
8	Jo Fowler	jo.fowler@sakilacustomer.org	54.85
9	Penny Neal	penny.neal@sakilacustomer.org	56.84
10	Johnny Turpin	johnny.turpin@sakilacustomer.org	57.81

## Identify the bottom 10 customers and their emails!

The ten customers of the DVD Rental Movies store who have the smallest total payment during their time as customers of the DVD Rental Movies store are Brian Wyman, Leona Obrien, Caroline, Anthony, Tiffany Jordan, Kirk Stclair, Bobble Craig, Jo Fowler, Penny Neal and Johnny Turpin.



# What are the most profitable movie genres (ratings)?

```
select category.name as genre, count(customer.customer_id) as Total_Permintaan_Rental, sum(payment.amount) as Total_Pembayaran
from category
join film_category on category.category_id=film_category.category_id
join film on film_category.film_id=film.film_id
join inventory on film.film_id=inventory.film_id
join rental on inventory.inventory_id=rental.inventory_id
join customer on rental.customer_id=customer.customer_id
join payment on rental.rental_id=payment.rental_id
group by genre
order by Total_Permintaan_Rental desc|
```

Movie Rental DVD Store has 16 movie genres. The sports genre is the most popular genre to rent, reaching 1081 rentals. Therefore, the sports genre is the genre that has the highest total payment. On the other hand, the music genre is the least preferred genre to rent, with 750 rentals. The music genre is also the genre with the lowest total payment.

	genre character varying (25)	total_permintaan_rental bigint	total_pembayaran numeric
1	Sports	1081	4892.19
2	Animation	1065	4245.31
3	Action	1013	3951.84
4	Sci-Fi	998	4336.01
5	Family	988	3830.15
6	Foreign	953	3934.47
7	Drama	953	4118.46
8	Documentary	937	3749.65
9	Games	884	3922.18
10	New	864	3966.38
11	Children	861	3309.39
12	Classics	860	3353.38
13	Comedy	851	4002.48
14	Horror	773	3401.27
15	Travel	765	3227.36
16	Music	750	3071.52

# How many rented movies were returned late, early, and on time?

```
select case
  when rental_duration > date_part('day', return_date-rental_date) then 'Pengembalian Lebih Awal'
  when rental_duration = date_part('day', return_date-rental_date) then 'Pengembalian Tepat Waktu'
  else 'Pengembalian Telat'
end as Status_Pengembalian,
count(*) as Banyaknya_Film
from film
join inventory on film.film_id=inventory.film_id
join rental on inventory.inventory_id=rental.inventory_id
group by Status_Pengembalian
order by Banyaknya_Film desc
```

	status_pengembalian text	banyaknya_film bigint
1	Pengembalian Lebih Awal	7738
2	Pengembalian Telat	6586
3	Pengembalian Tepat Waktu	1720



Early returns dominate, reaching 7,738 movies or equal to 48.2% of the overall percentage. Followed by on-time returns which amounted to 6,586 movies or around 41% of the overall percentage. Unfortunately, 1,720 movies or 10.7% of the total borrowed books were returned late.

# What is the customer base in the countries where we have a presence?

```
select country.country as negara,  
count(distinct customer.customer_id) as Banyak_Pelanggan,  
sum(payment.amount) as Total_Pembayaran  
from country  
join city on country.country_id=city.country_id  
join address on city.city_id=address.city_id  
join customer on address.address_id=customer.address_id  
join payment on customer.customer_id=payment.customer_id  
group by negara  
order by Banyak_Pelanggan desc
```

The Movie Rental DVD Store is present in 108 countries. India has the highest customer base with 60 customers, making it the country with the largest number of sales.



	negara character varying (50)	banyak_pelanggan bigint	total_pembayaran numeric
1	India	60	6034.78
2	China	53	5251.03
3	United States	36	3685.31
4	Japan	31	3122.51
5	Mexico	30	2984.82
6	Brazil	28	2919.19
7	Russian Federation	28	2765.62
8	Philippines	20	2219.70
9	Turkey	15	1498.49
10	Indonesia	14	1352.69
11	Nigeria	13	1314.92
12	Argentina	13	1298.80
13	South Africa	11	1069.46
14	Taiwan	10	1155.10
15	United Kingdom	9	850.96
16	Iran	8	877.96
17	Poland	8	786.16
18	Italy	7	753.26
19	Germany	7	741.24
20	Venezuela	7	632.43

# Which country is the most profitable for the business?

```
select country.country as negara,  
count(customer.customer_id) as Total_Permintaan,  
sum(payment.amount) as Total_Pembayaran  
from country  
join city on country.country_id=city.country_id  
join address on city.city_id=address.city_id  
join customer on address.address_id=customer.address_id  
join payment on customer.customer_id=payment.customer_id  
group by negara  
order by Total_Permintaan desc
```

India is the country that has the highest number of rental requests with 1,422 rentals, making it the country with the highest total payments.



	negara character varying (50)	total_permintaan bigint	total_pembayaran numeric
1	India	1422	6034.78
2	China	1297	5251.03
3	United States	869	3685.31
4	Japan	749	3122.51
5	Mexico	718	2984.82
6	Brazil	681	2919.19
7	Russian Federation	638	2765.62
8	Philippines	530	2219.7
9	Turkey	351	1498.49
10	Indonesia	331	1352.69
11	Argentina	320	1298.8
12	Nigeria	308	1314.92
13	Taiwan	290	1155.1
14	South Africa	254	1069.46
15	United Kingdom	204	850.96
16	Iran	204	877.96
17	Poland	184	786.16
18	Germany	176	741.24
19	Italy	174	753.26
20	Venezuela	157	632.43

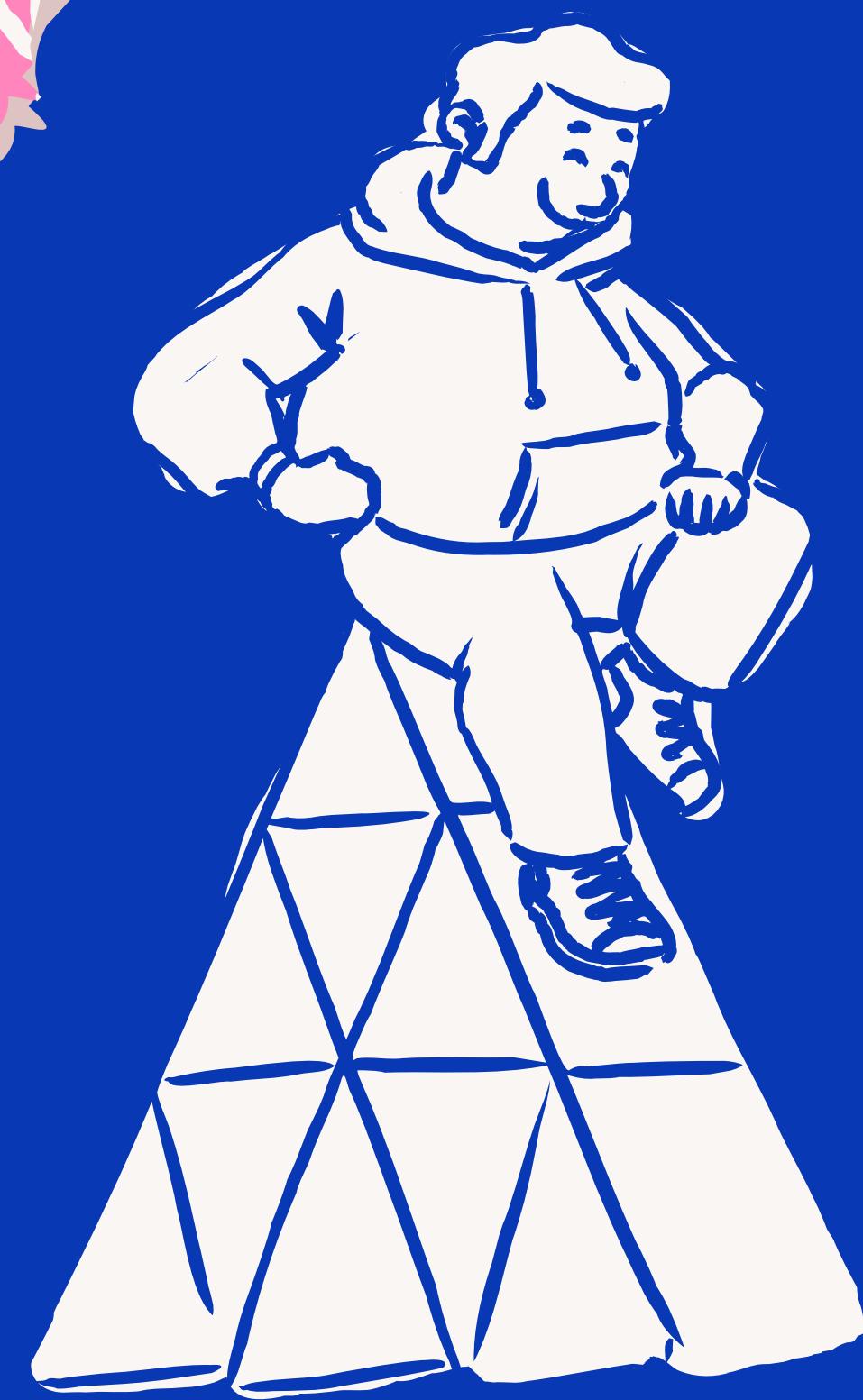
# What is the average rental rate per movie genre (rating)?

```
select category.name as Genre,  
round(avg(film.rental_rate),2) as Rata_rata_Tarif  
from category  
join film_category on category.category_id=film_category.category_id  
join film on film_category.film_id=film.film_id  
group by genre  
order by Rata_rata_Tarif desc
```



Of the 16 genres rented by the Movie DVD Rental Store, games is the genre that has the highest average rental rate followed by the travel, sci-fi, comedy and sports genres. Meanwhile, action is the genre with the smallest average rental rate.

	genre character varying (25)	rata_rata_tarif numeric
1	Games	3.25
2	Travel	3.24
3	Sci-Fi	3.22
4	Comedy	3.16
5	Sports	3.13
6	New	3.12
7	Foreign	3.1
8	Horror	3.03
9	Drama	3.02
10	Music	2.95
11	Children	2.89
12	Animation	2.81
13	Family	2.76
14	Classics	2.74
15	Documentary	2.67
16	Action	2.65



THANK YOU

SEE YOU NEXT TIME!