

1. Identify the top 10 customer and their email so we can reward them.

```
--Pilih kolom yang akan dijadikan output
SELECT C.customer_id, CONCAT(C.first_name,' ',C.last_name) AS
full_name, C.email, SUM(P.amount) AS total_amount
--Ambil data yang dijadikan sumber data
FROM customer AS C
--Gabungkan tabel customer dengan payment
JOIN payment AS P
ON C.customer_id = P.customer_id
--Pengelompokkan data
GROUP BY C.customer_id, C.email
--Urutkan berdasarkan jumlah total dari kolom amount dari tertinggi
ke terendah
ORDER BY SUM(P.amount) DESC
--Pengambilan 10 data teratas
LIMIT 10;
```

| | customer_id [PK] integer | full_name text | email character varying (50) | total_amount numeric |
|----|-----------------------------|-------------------|-----------------------------------|-------------------------|
| 1 | 148 | Eleanor Hunt | eleanor.hunt@sakilacustomer.org | 211.55 |
| 2 | 526 | Karl Seal | karl.seal@sakilacustomer.org | 208.58 |
| 3 | 178 | Marion Snyder | marion.snyder@sakilacustomer.org | 194.61 |
| 4 | 137 | Rhonda Kennedy | rhonda.kennedy@sakilacustomer.org | 191.62 |
| 5 | 144 | Clara Shaw | clara.shaw@sakilacustomer.org | 189.60 |
| 6 | 459 | Tommy Collazo | tommy.collazo@sakilacustomer.org | 183.63 |
| 7 | 181 | Ana Bradley | ana.bradley@sakilacustomer.org | 167.67 |
| 8 | 410 | Curtis Irby | curtis.irby@sakilacustomer.org | 167.62 |
| 9 | 236 | Marcia Dean | marcia.dean@sakilacustomer.org | 166.61 |
| 10 | 403 | Mike Way | mike.way@sakilacustomer.org | 162.67 |

Simpulan : Output yang dihasilkan mengenai nama dan email dari 10 pelanggan teratas yang akan berguna jika toko rental tersebut akan memberikan hadiah kepada pelanggannya. Dengan posisi teratas adalah Eleanor Hunt

2. Identify the bottom 10 customer and their emails.

```
--Pilih kolom yang akan dijadikan output
SELECT C.customer_id, CONCAT(C.first_name,' ',C.last_name) AS
full_name, C.email, SUM(P.amount) AS total_amount
--Ambil data yang dijadikan sumber data
FROM customer AS C
--Gabungkan tabel customer dengan payment
JOIN payment AS P
ON C.customer_id = P.customer_id
--Pengelompokkan data
GROUP BY C.customer_id, C.email
--Urutkan berdasarkan jumlah total dari kolom amount dari terendah ke
tertinggi
ORDER BY SUM(P.amount) ASC
--Pengambilan 10 data teratas
LIMIT 10;
```

| | customer_id [PK] integer | full_name text | email character varying (50) | total_amount numeric |
|----|-----------------------------|-------------------|------------------------------------|-------------------------|
| 1 | 318 | Brian Wyman | brian.wyman@sakilacustomer.org | 27.93 |
| 2 | 281 | Leona Obrien | leona.obrien@sakilacustomer.org | 32.90 |
| 3 | 248 | Caroline Bowman | caroline.bowman@sakilacustomer.org | 37.87 |
| 4 | 320 | Anthony Schwab | anthony.schwab@sakilacustomer.org | 47.85 |
| 5 | 110 | Tiffany Jordan | tiffany.jordan@sakilacustomer.org | 49.88 |
| 6 | 586 | Kirk Stclair | kirk.stclair@sakilacustomer.org | 50.83 |
| 7 | 288 | Bobbie Craig | bobbie.craig@sakilacustomer.org | 52.81 |
| 8 | 250 | Jo Fowler | jo.fowler@sakilacustomer.org | 54.85 |
| 9 | 271 | Penny Neal | penny.neal@sakilacustomer.org | 56.84 |
| 10 | 395 | Johnny Turpin | johnny.turpin@sakilacustomer.org | 57.81 |

Simpan : Output yang dihasilkan mengenai nama dan email dari 10 pelanggan terbawah yang dapat berguna sebagai informasi untuk melakukan strategi kedepan. Dengan posisi terbawah adalah Brian Wyman.

3. What are the most profitable movie genres (ratings)?

--Category > Film_category > Film > Inventory > Rental > Customer

--Pemilihan kolom

SELECT category.name AS genre, COUNT(customer.customer_id) AS total_demand,

SUM(payment.amount) AS total_revenue

--Sumber data

FROM category

--Penggabungan tabel

INNER JOIN film_category USING (category_id)

INNER JOIN film USING (film_id)

INNER JOIN inventory USING (film_id)

INNER JOIN rental USING (inventory_id)

INNER JOIN customer USING (customer_id)

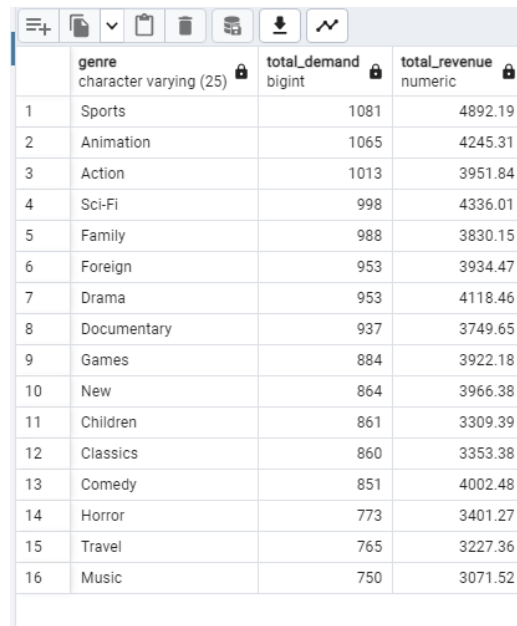
INNER JOIN payment USING (rental_id)

--Pengelompokkan berdasarkan genre

GROUP BY genre

--Urutan berdasarkan total_demand

ORDER BY total_demand DESC;



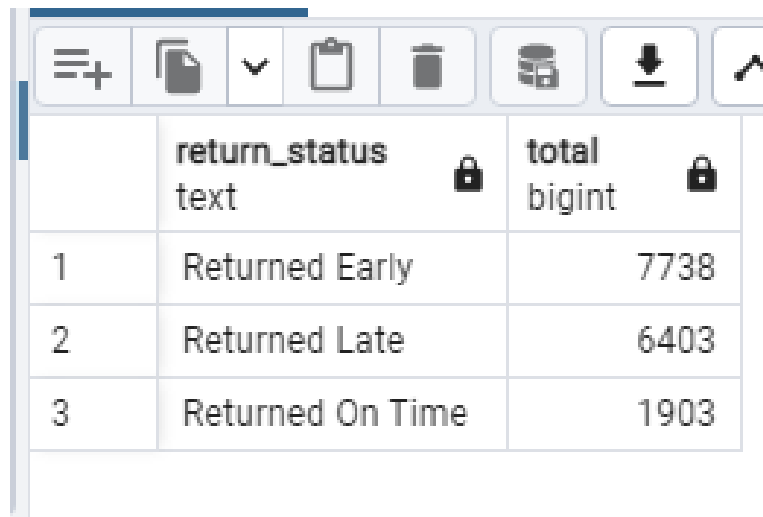
| | genre character varying (25) | total_demand bigint | total_revenue numeric |
|----|---------------------------------|------------------------|--------------------------|
| 1 | Sports | 1081 | 4892.19 |
| 2 | Animation | 1065 | 4245.31 |
| 3 | Action | 1013 | 3951.84 |
| 4 | Sci-Fi | 998 | 4336.01 |
| 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 |

Simpulan : DVD yang paling banyak dicari sehingga toko rental mendapatkan keuntungan lebih dari segi penjualan yaitu genre sport. Informasi tersebut juga berfungsi, supaya toko rental siap sedia akan stok atas genre-genre DVD yang banyak diminati oleh pelanggan.

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

```
--Film > Inventory > Rental

--Buatlah case
SELECT CASE
    WHEN rental_duration > date_part('day', return_date - rental_date)
    THEN 'Returned Early'
    WHEN rental_duration < date_part('day', return_date - rental_date)
    THEN 'Returned Late'
    ELSE 'Returned On Time'
    END AS return_status,
    COUNT(*) AS total
--Ambil data yang dijadikan sumber data
FROM film AS F
--Gabungkan tabel
INNER JOIN inventory ON F.film_id = inventory.film_id
INNER JOIN rental ON inventory.inventory_id = rental.inventory_id
--Pengelompokkan berdasarkan return_status
GROUP BY 1
--Urutan berdasarkan total
ORDER BY 2 DESC;
```



| | return_status text | total bigint |
|---|-----------------------|-----------------|
| 1 | Returned Early | 7738 |
| 2 | Returned Late | 6403 |
| 3 | Returned On Time | 1903 |

Simpulan : Berdasarkan output yang dihasilkan, pengembalian DVD sebelum masa sewa berakhir lebih tinggi dibandingkan pengembalian DVD yang terlambat. Dengan adanya data tersebut, toko rental dapat merancang rencana supaya pelanggan dapat mengembalikan DVD tersebut lebih awal atau tepat waktu.

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

```
--Country > Customer
```

```
--Pemilihan kolom
```

```
SELECT country, COUNT(customer_id) AS customer_count
```

```
--Sumber data
```

```
FROM country
```

```
--Penggabungan tabel
```

```
INNER JOIN city ON country.country_id = city.country_id
```

```
INNER JOIN address ON city.city_id = address.city_id
```

```
INNER JOIN customer ON address.address_id = customer.address_id
```

```
--Pengelompokkan berdasarkan country
```

```
GROUP BY country
```

```
--Urutan berdasarkan kolom customer_count
```

```
ORDER BY customer_count DESC;
```



| | country character varying (50) | customer_count bigint |
|----|-----------------------------------|--------------------------|
| 1 | India | 60 |
| 2 | China | 53 |
| 3 | United States | 36 |
| 4 | Japan | 31 |
| 5 | Mexico | 30 |
| 6 | Brazil | 28 |
| 7 | Russian Federation | 28 |
| 8 | Philippines | 20 |
| 9 | Turkey | 15 |
| 10 | Indonesia | 14 |
| 11 | Argentina | 13 |
| 12 | Nigeria | 13 |
| 13 | South Africa | 11 |
| 14 | Taiwan | 10 |
| 15 | United Kingdom | 9 |
| 16 | Poland | 8 |
| 17 | Iran | 8 |
| 18 | Germany | 7 |
| 19 | Afghanistan | 7 |

Total rows: 108 of 108 Query complete 00:00:00.175

Simpulan : Dari banyaknya 108 negara, India merupakan negara yang menduduki peringkat teratas dengan Jumlah customer 60 sedangkan posisi terbawah diduduki oleh negara Afghanistan.

6. Which country is the most profitable for the business?

--Country > Customers

--Pemilihan kolom

```
SELECT country, COUNT(*) AS total_customers, SUM(amount) AS total_revenue
```

--Sumber data

```
FROM country
```

--Penggabungan tabel

```
INNER JOIN city ON country.country_id = city.country_id
```

```
INNER JOIN address ON city.city_id = address.city_id
```

```
INNER JOIN customer ON address.address_id = customer.address_id
```

```
INNER JOIN payment ON customer.customer_id = payment.customer_id
```

--Pengelompokkan berdasarkan country

```
GROUP BY country
```

--Urutan berdasarkan total_revenue

```
ORDER BY total_revenue DESC;
```



| | country character varying (50) | total_customers bigint | total_revenue 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 | 2219.70 |
| 9 | Turkey | 351 | 1498.49 |
| 10 | Indonesia | 331 | 1352.69 |
| 11 | Nigeria | 308 | 1314.92 |
| 12 | Argentina | 320 | 1298.80 |
| 13 | Taiwan | 290 | 1155.10 |
| 14 | South Africa | 254 | 1069.46 |
| 15 | Iran | 204 | 877.96 |
| 16 | United Kingdom | 204 | 850.96 |
| 17 | Poland | 184 | 786.16 |
| 18 | Italy | 174 | 753.26 |
| 19 | Germany | 176 | 741.04 |

Total rows: 108 of 108 Query complete 00:00:00.138

Simpulan : India adalah negara yang paling menguntungkan untuk bisnis karena india menjadi pelanggan terbesar sehingga jika memiliki pelanggan yang banyak maka dapat meningkatkan peningkatan penjualan atau keuntungan bagi bisnis.

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

```
--Category > Film_category
```

```
--Pemilihan kolom
```

```
SELECT name AS movie_genre, AVG(rental_rate) AS average_rental_rate
```

```
--Sumber data
```

```
FROM category
```

```
--Penggabungan tabel
```

```
INNER JOIN film_category ON category.category_id =  
film_category.category_id
```

```
INNER JOIN film ON film_category.film_id = film.film_id
```

```
--Pengelompokkan berdasarkan movie_genre
```

```
GROUP BY movie_genre
```

```
--Urutan berdasarkan average_rental_rate
```

```
ORDER BY average_rental_rate DESC;
```

| | movie_genre character varying (25) | average_rental_rate numeric |
|----|---------------------------------------|--------------------------------|
| 1 | Games | 3.2522950819672131 |
| 2 | Travel | 3.2356140350877193 |
| 3 | Sci-Fi | 3.2195081967213115 |
| 4 | Comedy | 3.1624137931034483 |
| 5 | Sports | 3.1251351351351351 |
| 6 | New | 3.1169841269841270 |
| 7 | Foreign | 3.0995890410958904 |
| 8 | Horror | 3.0257142857142857 |
| 9 | Drama | 3.0222580645161290 |
| 10 | Music | 2.9507843137254902 |
| 11 | Children | 2.8900000000000000 |
| 12 | Animation | 2.8081818181818182 |
| 13 | Family | 2.7581159420289855 |
| 14 | Classics | 2.7443859649122807 |
| 15 | Documentary | 2.6664705882352941 |
| 16 | Action | 2.6462500000000000 |

Simpulan : Berdasarkan output yang dihasilakn genre yang memiliki rata-rata tertinggi adalah Games sedangkan genre yang memiliki rata-rata terendah adalah Action.