Data Structure

film_actor

actor_id	SMALLINT
film_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

actor

actor_id	SERIAL
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

inventory

inventory_id	SERIAL
film_id	SMALLINT
store_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

film

film_id	SERIAL
title	CHARACTER VARYING(255)
description	TEXT
release_year	year
language_id	SMALLINT
rental_duration	SMALLINT
rental_rate	NUMERIC(4,2)
length	SMALLINT
replacement_cost	NUMERIC(5,2)
rating	mpaa_rating
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
special_features	TEXT[]
fulltext	TSVECTOR

language

language_id	SERIAL
name	CHARACTER(20)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

payment

payment_id	SERIAL
customer_id	SMALLINT
staff_id	SMALLINT
rental_id	INTEGER
amount	NUMERIC(5,2)
payment_date	TIMESTAMP(6) WITHOUT TIME ZONE

rental

rental_id	SERIAL
rental_date	TIMESTAMP(6) WITHOUT TIME ZONE
inventory_id	INTEGER
customer_id	SMALLINT
return_date	TIMESTAMP(6) WITHOUT TIME ZONE
staff_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

film_category

film_id	SMALLINT
category_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

category

category_id	SERIAL
name	CHARACTER VARYING(25)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

customer

customer_id	SERIAL
store_id	SMALLINT
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
email	CHARACTER VARYING(50)
address_id	SMALLINT
activebool	BOOLEAN
create_date	DATE
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
active	INTEGER

staff

staff_id	SERIAL
first_name	CHARACTER VARYING(45)
last_name	CHARACTER VARYING(45)
address_id	SMALLINT
email	CHARACTER VARYING(50)
store_id	SMALLINT
active	BOOLEAN
username	CHARACTER VARYING(16)
password	CHARACTER VARYING(40)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE
picture	BYTEA

address

address_id	SERIAL
address	CHARACTER VARYING(50)
address2	CHARACTER VARYING(50)
district	CHARACTER VARYING(20)
city_id	SMALLINT
postal_code	CHARACTER VARYING(10)
phone	CHARACTER VARYING(20)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

store

store_id	SERIAL
manager_staff_id	SMALLINT
address_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

city

city_id	SERIAL
city	CHARACTER VARYING(50)
country_id	SMALLINT
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

country

country_id	SERIAL
country	CHARACTER VARYING(50)
last_update	TIMESTAMP(6) WITHOUT TIME ZONE

Data Dictionary

Table	Column	Data Type	Description
Payment	Payment_id	Serial	Unique payment identifier
	Customer_id	Small Int	Unique customer identifier
	Staff_id	Small Int	Unique staff identifier
	Rental_id	Integer	Unique rental identifier
	Amount	Numeric(5,2)	Payment Amount
	Payment_date	Timestamp without time zone	Payment Date

Table	Column	Data Type	Description
Rental	Rental_id	Serial	Unique rental identifier
	Rental_date	Timestamp without time zone	Rental Date
	Inventory_id	Integer	Unique inventory identifier
	Customer_id	Small Int	Unique customer identifier
	Return_date	Timestamp without time zone	Return Date
	Staff_id	Small Int	Unique staff identifier
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Film Actor	Actor_id	Small Int	Unique identifier of actor
	Film_id	Small Int	Unique identifier of film
	Last_update	Timestamp without time zone	last update

Table	Column	Data Type	Description
Inventory	Inventory_id	Serial	Unique identifier of inventory
	Film_id	Small Int	Unique identifier of film
	Store_id	Small Int	Unique identifier of store
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Film Category	Film_id	Small Int	Unique identifier of film
	Category_id	Small Int	Unique identifier of category
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Customer	Customer_id	Small Int	Unique customer identifier
	Store_id	Small Int	Unique identifier of store
	First_name	Character Varying(45)	Customer first name
	Last_name	Character Varying(45)	Customer last name
	Email	Character Varying(5O)	Customer email
	Address_id	Small Int	Unique identifier of address
	Activebool	Boolean	Active customers
	Create_date	Date	Customer ID creation date
	Last_update	Timestamp without time zone	Last update
	Active	Integer	Active status

Table	Column	Data Type	Description
Staff	Staff_id	Serial	Unique identifier of staff member
	First_name	Character Varying(45)	Staff member first name
	Last_name	Character Varying(45)	Staff member last name
	Address_id	Small Int	Unique identifier of address
	Email	Character Varying(5O)	Staff member email
	Store_id	Small Int	Unique identifier of store
	Active	Boolean	Staff member active
	username	Character Varying(16)	Staff member username
	Password	Character Varying(4O)	Staff member password
	Last_update	Timestamp without time zone	Last update
	Picture	Bytea	Staff member picture

Table	Column	Data Type	Description
Actor	Actor_id	Serial	Unique identifier of actor
	First_name	Character Varying(45)	Actor first name
	Last_name	Character Varying(45)	Actor last name
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Film	Film_id	Serial	Unique identifier of film
	Title	Character Varying(255)	Film title
	Description	Text	Film description
	Release_year	Year	Film release year
	Language_id	Small Int	Film language
	Rental_duration	Small Int	Rental duration
	Rental_rate	Numeric(4,2)	Rental rate
	Length	Small Int	Film duration
	Replacement_cost	Numeric(S,2)	Film replacement cost
	Rating	Mpaa_rating	Film rate
	Last_update	Timestamp without time zone	Last update
	Special_features	Text []	Film special feature
	Fulltext	Tsvector	Film index

Table	Column	Data Type	Description
Category	Category_id	Serial	Unique identifier of category
	Name	Character Varying(2S)	Name of category
	Last_update	Timestamp without time zone	Time of last update

Table	Column	Data Type	Description
Address	Address_id	Serial	Unique identifier of address
	Address	Character Varying(S0)	Address 1
	Address2	Character Varying(S0)	Address 2
	District	Character Varying(20)	District
	City_id	Small lnt	Unique identifier of city
	Postal_code	Character Varying(l0)	Postal code
	Phone	Character Varying(20)	Phone number
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Language	Language_id	Serial	Unique identifier of language
	Name	Character Varying(20)	Language
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
City	City_id	Serial	Unique identifier of city
	City	Character Varying(S0)	City name
	Country_id	Small lnt	Unique identifier of country
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Country	Country_id	Serial	Unique identifier of country
	Country	Character Varying(SO)	Country name
	Last_update	Timestamp without time zone	Last update

Table	Column	Data Type	Description
Store	store_id	serial	Unique identifier of store
	manager_staff_id	small int	Unique identifier of staff manager
	address_id	small int	Unique identifier of address
	last_update	timestamp(6) without time zon	Last update

```sql
SELECT A.title, SUM(B.amount) AS max_amount
FROM film A
INNER JOIN inventory C ON A.film_id=C.film_id
INNER JOIN rental D ON C.inventory_id=D.inventory_id
INNER JOIN payment B ON D.rental_id=B.rental_id
GROUP BY A.title
ORDER BY max_amount DESC
LIMIT 10;
```

The least movies revenue

Texas Watch remains in the last place with $5.94 revenue

Movie	Revenue
Texas Watch	$5.94
Oklahoma Jumanji	$5.94
Duffel Apocalypse	$5.94
Freedom Cleopatra	$5.95
Young Language	$6.93
Rebel Airport	$6.93
Cruelty Unforgiven	$6.94
Treatment Jekyll	$6.94
Lights Deer	$7.93
Stallion Sundance	$7.94

```sql
SELECT A.title, SUM(B.amount) AS max_amount
FROM film A
INNER JOIN inventory C ON A.film_id=C.film_id
INNER JOIN rental D ON C.inventory_id=D.inventory_id
INNER JOIN payment B ON D.rental_id=B.rental_id
GROUP BY A.title
ORDER BY max_amount ASC
LIMIT 10;
```

Average rental duration by Genre

Travel Genre comes in the first place with 5.35 Days rental duration Sport ranks last with 4.71

```sql
SELECT A.name, AVG(B.rental_duration) AS avg_rental_duration FROM
category A
INNER JOIN film_category C ON A.category_id=C.category_id
INNER JOIN film B on B.film_id=C.film_id
GROUP BY A.name
ORDER BY AVG(B.rental_duration) DESC;
```

The Most/Least movies revenue by Genre

Sports $4892.19
Sci-Fi $4336.01
Animation $4245.31
Drama $4118.46
Comedy $4002.48
New $3,966.38
Action $3,951.84
Foreign $3,934.47
Games $3,922.18
Family $3,782.26
Documentary $3,749.65
Horror $3,401.27
Classics $3,353.38
Children $3,309.39
Travel $3,227.36
Music $3,071.52

Sports Genre comes in the first place with $4892.19 revenue while Music ranks last with $3071.52

```sql
SELECT F.name, SUM(B.amount) AS max_amount
FROM payment B
LEFT JOIN rental A ON A.rental_id=B.rental_id
LEFT JOIN inventory D ON D.inventory_id=A.inventory_id
LEFT JOIN film_category C ON C.film_id=D.film_id
LEFT JOIN category F ON C.category_id=F.category_id
GROUP BY F.name
ORDER BY max_amount DESC;
```

```sql
SELECT country, COUNT(distinct C.customer_id) AS customer_count, SUM(amount) AS total_revenue
FROM customer C
INNER JOIN address A ON C.address_id=A.address_id
INNER JOIN city CI ON A.city_id=CI.city_id
INNER JOIN country CO ON CI.country_id=CO.country_id
INNER JOIN payment PY ON C.customer_id=PY.customer_id
GROUP BY country
ORDER BY total_revenue DESC;
```

Additional Statistics

Number of countries in which Rockbuster present
108 Country

Total number of customers
599 Customer

Total revenue
$61.312

Total number of movies
1001 Movie

Highest Spend
Eleanor Hunt From Runion/Africa
spend the most on renting movies
with $ $211.

Rental Rate
Minimum	$0.99
Maximum	$4.99
Average	$2.98

Rental Duration
Minimum	3 Days
Maximum	7 Days
Average	4.98 Days

Movie Length
Minimum	46 Min
Maximum	185 Min
Average	115.27 Min

Replacement Cost
Minimum	$9.99
Maximum	$29.99
Average	$19.98

```sql
SELECT MAX(rental_rate) AS max_rental_rate,
MIN(rental_rate) AS min_rental_rate,
AVG(rental_rate) AS AVG_rental_rate
FROM film;

SELECT MAX(rental_duration) AS max_rental_duration,
MIN(rental_duration) AS min_rental_duration,
AVG(rental_duration) AS AVG_rental_duration
FROM film;
```

```sql
SELECT MAX(length) AS max_length,
MIN(length) AS min_length,
AVG(length) AS AVG_length
FROM film;

SELECT MAX(replacement_cost) AS max_replacement_cost,
MIN(replacement_cost) AS min_replacement_cost,
AVG(replacement_cost) AS AVG_replacement_cost
FROM film;
```