CUSTOMER ANALYSIS

Objective

We need to examine the dataset with SQL and help the Customer understand its Customers by answering simple questions.

```
--Q1
select distinct
replacement_cost
from film
order by replacement_cost asc;   --lowest replacement cost is 9.99
```

	replacement_cost numeric (5,2) 🔒
1	9.99
2	10.99
3	11.99
4	12.99
5	13.99
6	14.99
7	15.99
8	16.99
9	17.99
10	18.99

Level: Moderate
Topic: CASE + GROUP BY

Q2.How many films have a replacement cost in the "low" group?

Answer: 514

```sql
--Q2
select
case
when replacement_cost <=19.99 then 'low'
when replacement_cost between 20.00 and 24.99 then 'medium'
when replacement_cost >24.99 then 'high'
end as cost_range,
count(*)
from film
group by cost_range;
```

	cost_range text	count bigint
1	medium	250
2	high	236
3	low	514

Level: Moderate
Topic: JOIN

Q3:In which category is the longest film and how long is it?

Answer: Sports and 184

```
--Q3
select title,length,name
from film f
left join film_category fc
on f.film_id=fc.film_id
left join category c
on fc.category_id=c.category_id
where name='Sports'  or name= 'Drama'
    order by length desc;
```

	title text	length smallint	name text
1	SMOOCHY CONTROL	184	Sports
2	RECORDS ZORRO	182	Sports
3	STAR OPERATION	181	Sports
4	JACKET FRISCO	181	Drama
5	SOMETHING DUCK	180	Drama

Level: Moderate
Topic: JOIN & GROUP BY

Q4.Which category (name) is the most common among the films?

Answer: Sports with 74 titles

```sql
--Q4
SELECT
name,
COUNT(title)
FROM film f
left JOIN film_category fc
ON f.film_id=fc.film_id
left JOIN category c
ON c.category_id=fc.category_id
GROUP BY name
ORDER BY 2 DESC;
```

	name text	count bigint
1	Sports	74
2	Foreign	73
3	Family	69
4	Documentary	68
5	Animation	66
6	Action	64
7	New	63

Level: Moderate
Topic: JOIN &
GROUP BY

Q5:Which actor is part of most movies??

Answer: Susan Davis with 54 movies

```sql
--Q5
select first_name,last_name,count(*)
from actor a
left join film_actor fa
on a.actor_id=fa.actor_id
left join film f
on fa.film_id=f.film_id
group by first_name,last_name
order by count(*) desc;
```

	first_name text	last_name text	count bigint
1	SUSAN	DAVIS	54
2	GINA	DEGENERES	42
3	WALTER	TORN	41
4	MARY	KEITEL	40
5	MATTHEW	CARREY	39
6	SANDRA	KILMER	37

Q6: How many addresses are that?

Answer: 4

```
--Q6
SELECT * FROM address a
LEFT JOIN customer c
ON c.address_id = a.address_id
WHERE c.first_name is null;
```

	address_id integer	address text	address2 text	district text	city_id smallint	postal_code text	phone text	last_update timestamp with time zone
1	2	28 MySQL Bouleva...	[null]	QLD	576			2020-02-15 15:15:30+05:30
2	4	1411 Lillydale Drive	[null]	QLD	576		6172235589	2020-02-15 15:15:30+05:30
3	1	47 MySakila Drive	[null]	Alberta	300			2020-02-15 15:15:30+05:30
4	3	23 Workhaven Lane	[null]	Alberta	300		14033335568	2020-02-15 15:15:30+05:30

Level: Moderate
Topic: JOIN &
GROUP BY

Q7: What city is
that and how
much is the
amount?

Answer: Cape Coral with a total
amount of 221.55

```sql
--Q7
select city,sum(amount)
from payment p
left join customer c
on p.customer_id=c.customer_id
left join address a
on c.address_id=a.address_id
left join city ci
on a.city_id=ci.city_id
group by  city
order by sum(amount) desc;
```

	city text	sum numeric
1	Cape Coral	221.55
2	Saint-Denis	216.54
3	Aurora	198.50
4	Molodetno	195.58
5	Apeldoorn	194.61
6	Santa Brbara dOeste	194.61
7	Qomsheh	186.62

Level: Moderate to difficult
Topic: JOIN & GROUP BY

Q8:Which country, city has the least sales?

Answer: United States, Tallahassee with a total amount of 50.85.

```sql
--Q8
select
country||', '||city,
sum(amount) as Amount
from payment p
left join customer c
on p.customer_id=c.customer_id
left join address a
on c.address_id=a.address_id
left join city ci
on a.city_id=ci.city_id
left join country co
on ci.country_id=co.country_id
group by country||', '||city
order by amount asc;
```

	?column? text	amount numeric
1	United States, Tallahassee	50.85
2	China, Fuzhou	50.86
3	Poland, Bydgoszcz	52.88
4	Sudan, al-Qadarif	57.81
5	Mozambique, Tete	58.82
6	Switzerland, Basel	58.86

Q9:Which staff_id makes on average more revenue per customer?

Answer: staff_id 2 with an average revenue of 56.64 per customer.

```
--Q9
select
staff_id,
round(avg(total),2)
from
    (select sum(amount) as total,customer_id,staff_id
    from payment
    group  by staff_id,customer_id)
group by staff_id;
```

	staff_id smallint 🔒	round numeric 🔒
1	2	56.64
2	1	55.91

Level: Difficult to very difficult

Topic: EXTRACT + Uncorrelated subquery

Q10:What is the daily average revenue of all Sundays?

Answer: 1410.65

```
--Q10
select
round(avg(total),2)
from (select sum(amount) as total,
        date(payment_date),
        extract(dow from payment_date) as weekday
    from payment
        where extract(dow from payment_date)=0
        group by date(payment_date),weekday);
```

	round numeric 🔒
1	1817.04

Level: Difficult to very difficult

Topic: Correlated subquery

Q11:which two movies are the shortest on that list and how long are they?

Answer: CELEBRITY HORN and SEATTLE EXPECTATIONS with 110 minutes.

```
--Q11
select
title,length
from film f1
where length > (select avg(length) from film f2
                where f1.replacement_cost=f2.replacement_cost)
order by length asc;
```

	title text	length smallint
1	CELEBRITY HORN	110
2	SEATTLE EXPECATIONS	110
3	WONDERLAND CHRISTMAS	111
4	GROOVE FICTION	111
5	WIND PHANTOM	111
6	SUIT WALLS	111

Level: Very difficult

Topic: Correlated query

Q12: Which district has the highest average customer lifetime value?

Answer: Saint-Denis with an average customer lifetime value of 217.

```
--Q12
select
district,
round(avg(total))
from (select district,c.customer_id,sum(amount) total
        from payment p
        inner join customer c
        on c.customer_id=p.customer_id
        inner join address a
         on c.address_id=a.address_id
        group by district,c.customer_id)
group by district
    order by round(avg(total)) desc;
```

	district text	round numeric
1	Saint-Denis	217
2	Minsk	196
3	Skikda	174
4	Khartum	170
5	Pietari	163
6	Hodeida	161

Level: Very difficult

Topic: Correlated query

Q13: What is the total revenue of the category 'Action' and what is the lowest payment_id in that category 'Action'?

Answer: Total revenue in the category 'Action' is 4375.85 and the lowest payment_id

in that category is 16055.

```sql
--Q13
SELECT
title,amount,name,payment_id,
(SELECT SUM(amount) FROM payment p
LEFT JOIN rental r
ON r.rental_id=p.rental_id
LEFT JOIN inventory i
ON i.inventory_id=r.inventory_id
LEFT JOIN film f
ON f.film_id=i.film_id
LEFT JOIN film_category fc
ON fc.film_id=f.film_id
LEFT JOIN category c1
ON c1.category_id=fc.category_id
WHERE c1.name=c.name)
FROM payment p
LEFT JOIN rental r
ON r.rental_id=p.rental_id
LEFT JOIN inventory i
ON i.inventory_id=r.inventory_id
LEFT JOIN film f
ON f.film_id=i.film_id
LEFT JOIN film_category fc
ON fc.film_id=f.film_id
LEFT JOIN category c
ON c.category_id=fc.category_id
ORDER BY name
```

title	amount	name	payment_id	sum
text	numeric (5,2)	text	integer	numeric
1	SUSPECTS QUILLS	4.99	Action	30011	4375.85
2	DEVIL DESIRE	4.99	Action	31822	4375.85
3	CASUALTIES ENCINO	8.99	Action	18149	4375.85
4	DREAM PICKUP	2.99	Action	18152	4375.85
5	REAR TRADING	0.99	Action	30545	4375.85
6	SHRUNK DIVINE	2.99	Action	19027	4375.85
7	PATRIOT ROMAN	3.99	Action	19002	4375.85
8	REAR TRADING	3.99	Action	18998	4375.85
9	LAWRENCE LOVE	0.99	Action	18996	4375.85
10	SOUTH WAIT	5.99	Action	30535	4375.85

THANK YOU