Data Science Homework 4

Tian Hang
th2669

1.Give a count of all videos currently out

```
SELECT COUNT(*) from rental
where return_date is NULL

```

Count
183

The count is 183

2. Make a list of all customer names who have videos out and how much they owe.

```
SELECT first_name, last_name,COUNT(*) FROM customer
INNER JOIN rental ON customer.customer_id = rental.customer_id
WHERE return_date IS null
GROUP BY first_name,last_name
ORDER BY COUNT DESC

```

First_name	Last_name	Count
Tammy	Sanders	3
Mildred	Bailey	2
Margie	Wade	2
Jordan	Archuleta	2
Gail	Knight	2
Miguel	Betancourt	2
Heather	Morris	2
Sonia	Gregory	2
Annette	Olson	2

Tammy Sanders owe 3 videos.

4. Using a $1 per day late fee. Find out which users owe the most assuming all rentals are a week long.

```
SELECT c.first_name,c.last_name,
       SUM(DATE_PART('day', r.return_date - r.rental_date -INTERVAL '7' day))
FROM rental r
INNER JOIN customer AS c ON c.customer_id=r.customer_id
WHERE DATE_PART('day', r.return_date - r.rental_date)>7
GROUP BY r.customer_id,
         c.first_name,
         c.last_name
ORDER BY SUM(DATE_PART('day', r.return_date - r.rental_date -INTERVAL '7' day))
DESC

```

First_name	Last_name	Sum
Karl	Seal	15.00
Wesley	Bull	15.00
June	Carroll	15.00
Louis	Leone	15.00
Eleanor	Hunt	14.00
Lena	Jensen	14.00
Michelle	Clark	14.00
Brittany	Riley	14.00

5. What hour of the day to people rent the most ?

```
SELECT EXTRACT(HOUR FROM rental_date) AS hour,
    COUNT(EXTRACT(HOUR FROM rental_date))
FROM rental
GROUP BY hour
ORDER BY count DESC

```

Hour	Count
15.00	887
8.00	696
0.00	694
18.00	688
3.00	684
4.00	681
19.00	676

6. Which store is more profitable, assuming all movies cost $15 per inventory item to purchase.

```
SELECT earn.store_id, earn.income, pay.cost, earn.income-pay.cost AS profit FROM
(SELECT c.store_id,sum(p.amount) AS income FROM payment p
     INNER JOIN customer AS c ON c.customer_id = p.customer_id
     GROUP BY c.store_id) AS earn
INNER JOIN
(SELECT c.store_id,count(DISTINCT i.film_id)*15 AS cost FROM payment as p
     INNER JOIN customer AS c ON c.customer_id = p.customer_id
     INNER JOIN rental AS r ON r.customer_id = p.customer_id
     INNER JOIN inventory AS i on i.inventory_id = r.inventory_id
     GROUP BY c.store_id) AS pay
ON earn.store_id = pay.store_id

```

Store_id	Income	Cost	Profit
1	33,621.42	14,355	19,266.42
2	27,690.62	14,370	13,320.62