FDT Worksheet Week 3

GROUP BY and window functions

1. Northwind: **Show how many employees live in each city (group employees by city)**

```
SELECT city, COUNT(*)
FROM employees
GROUP BY city
```

2. Northwind: **Show how many products are contained in each order**

```
SELECT orderid, COUNT(*) AS num_products
FROM order_details
GROUP BY orderid
```

3. Northwind: **Show how many products are contained in each order (largest orders first)**

```
SELECT orderid, COUNT(*) AS num_products
FROM order_details
GROUP BY orderid
ORDER BY num_products DESC
```

4. Dvdrental: **Show customers, sorted according to their rental counts.**

```
SELECT first_name, last_name,
COUNT(rental.rental_id) as rental_count
FROM
customer INNER JOIN rental
ON customer.customer_id = rental.customer_id
GROUP BY first_name, last_name
ORDER BY rental_count DESC
```

5. Dvdrental: **Find the number of rentals performed by each member of staff.**

```
SELECT staff.first_name, COUNT(*)
FROM
rental INNER JOIN staff
ON rental.staff_id = staff.staff_id
GROUP BY staff.staff_id
```

6. Dvdrental: **Which films were rented most?**

```
SELECT title, COUNT(*) AS rental_count
FROM
film INNER JOIN inventory
ON film.film_id = inventory.film_id
INNER JOIN rental
ON inventory.inventory_id = rental.inventory_id
GROUP BY film.film_id
ORDER BY rental_count DESC
```

7. Northwind: **Which employees processed the most orders?**

```
SELECT firstname, lastname, COUNT(*) AS order_count FROM
orders INNER JOIN employees
ON orders.employeeid = employees.employeeid
```

GROUP BY employees.employeeid
ORDER BY order_count **DESC**

8. Northwind: **Which customers ordered from the largest range of suppliers?**
Show the number of orders each customer made, and the number of different suppliers they ordered from.

SELECT customers.contactname, **COUNT**(DISTINCT orders.orderid) **AS** order_count, **COUNT**(DISTINCT suppliers.supplierid) **AS** supplier_count
FROM
customers **INNER JOIN** orders
ON customers.customerid = orders.customerid
INNER JOIN order_details
ON orders.orderid = order_details.orderid
INNER JOIN products
ON order_details.productid = products.productid
INNER JOIN suppliers
ON products.supplierid = suppliers.supplierid
GROUP BY customers.contactname
ORDER BY order_count **DESC**

9. Dvdrental: **Find the number of films each actor has played a role in.**

SELECT first_name, last_name, **COUNT**(*) **as** film_count
FROM
actor **INNER JOIN** film_actor
ON actor.actor_id = film_actor.actor_id
INNER JOIN film
ON film_actor.film_id = film.film_id
GROUP BY actor.actor_id
ORDER BY film_count **DESC**

10. Dvdrental: **Find the number of films each actor has played a role in.**
Return the full name in one column, sorted alphabetically by last name.

SELECT first_name || ' ' || last_name **as** actor_full_name, **COUNT**(*) **as** film_count
FROM
actor **INNER JOIN** film_actor
ON actor.actor_id = film_actor.actor_id
INNER JOIN film
ON film_actor.film_id = film.film_id
GROUP BY actor.actor_id
ORDER BY last_name **ASC**

11. Dvdrental: **Find the number of customers in each country.**

SELECT country, **COUNT**(*)
FROM
customer **INNER JOIN** address
ON customer.address_id = address.address_id
INNER JOIN city
ON address.city_id = city.city_id
INNER JOIN country
ON city.country_id = country.country_id

GROUP BY country
ORDER BY count DESC

12. Northwind: **Which employees processed the most orders?**
Show only employees who processed more than 100 orders.

SELECT firstname, lastname, **COUNT**(*) **AS** order_count **FROM**
orders **INNER JOIN** employees
ON orders.employeeid = employees.employeeid
GROUP BY employees.employeeid
HAVING COUNT(*) > 100
ORDER BY order_count **DESC**

13. Dvdrental: **Which films were rented most?**
Show only films with less than 10 rentals

SELECT title, **COUNT**(*) **AS** rental_count
FROM
film **INNER JOIN** inventory
ON film.film_id = inventory.film_id
INNER JOIN rental
ON inventory.inventory_id = rental.inventory_id
GROUP BY film.film_id
HAVING COUNT(*) < 10
ORDER BY rental_count **DESC**

14. Northwind: **Show orders and shipping methods, along with the average freight weight for that shipping method.**
shipvia: shipping method code
freight: freight weight

SELECT orderid, shipvia,
AVG(freight) **OVER** (**PARTITION BY** shipvia) **AS** mean_freight **FROM** orders

15. Northwind: **Show product names. Each row should show the product name, its category name, and the total number of products in that category.**

SELECT productname, categories.categoryname,
COUNT(productid) **OVER** (**PARTITION BY** products.categoryid)
AS n_products_in_category
FROM
products **INNER JOIN** categories
ON products.categoryid = categories.categoryid

16. Dvdrental: **Show Eleanor Hunt's rental history, with cumulative total of how much she has paid.**

SELECT first_name, last_name, rental_date, amount,
SUM(amount) **OVER**(**ORDER BY** rental_date)
AS cumulative_amount
FROM
customer **INNER JOIN** rental
ON customer.customer_id = rental.customer_id
INNER JOIN payment
ON rental.rental_id = payment.rental_id

WHERE first_name='Eleanor' **AND** last_name='Hunt'