**Homework 5**

Due: 10/07/2024 by 11:59 PM

*Note: For questions 8, 9, and 10, create a new database named 'HR' and restore it using the hr\_db.sql file.*

1. Find monthly order totals in 1997. Calculate order totals as (unit\_price \* quantity)\*(1- discount).

# Northwind database, orders and order\_details tables.

SELECT

DATE\_TRUNC('month', order\_date) AS month,

SUM((unit\_price \* quantity)\*(1- discount)) AS monthly\_order\_totals FROM orders AS O

INNER JOIN order\_details AS OD ON OD.order\_id = O.order\_id

WHERE DATE\_PART('year', order\_date) = 1997 GROUP BY month

ORDER BY month;

***Explanation:*** *This query calculates the monthly total order value for 1997 by multiplying the unit price by the quantity and applying the discount. It groups by month and sorts by month.*

1. Find employees who have been hired more than 32 years ago. ***Northwind database, employees***

# table.

SELECT \*

FROM employees

WHERE hire\_date < CURRENT\_DATE - INTERVAL '32 year';

***Explanation:*** *This query retrieves all employees who were hired more than 32 years ago by comparing their hire date with the current date minus 32 years.*

1. Find the average order processing days (order processing day = shipped\_date – order\_date).

# Northwind database, orders table.

SELECT

AVG(shipped\_date - order\_date) FROM orders;

***Explanation:*** *This query calculates the average number of days between the order date and the shipped date, which represents the average order processing time.*

1. Find out the number of times movie “King Evolution” rented in each month of 2005? ***Dvdrental***

# database, film, inventory, and rental tables.

SELECT

DATE\_TRUNC('month', rental\_date) AS month, COUNT(\*)

FROM film AS F

INNER JOIN inventory AS I ON F.film\_id = I.film\_id INNER JOIN rental AS R

ON I.inventory\_id = R.inventory\_id

WHERE title = 'King Evolution' AND DATE\_PART('year', rental\_date) = 2005 GROUP BY DATE\_TRUNC('month', rental\_date);

***Explanation:*** *This query counts the number of times the film "King Evolution" was rented in each month of 2005, grouping by the rental month.*

1. Find the monthly number of orders by truncating the order date to the start of each month.

# Northwind database, orders table.

SELECT

DATE\_TRUNC('month', order\_date) AS month, COUNT(\*)

FROM orders

GROUP BY DATE\_TRUNC('month', order\_date) ORDER BY month;

***Explanation:*** *This query counts the number of orders placed in each month, grouping the results by the start of each month.*

1. Find the number of rentals on an hourly basis to understand the peak rental times. ***Dvdrental***

# database, rental table.

SELECT

DATE\_PART('hour', rental\_date) AS hour, COUNT(\*)

FROM rental

GROUP BY DATE\_PART('hour', rental\_date) ORDER BY hour;

***Explanation:*** *This query counts the number of rentals for each hour of the day, based on the rental date, to identify peak rental times.*

1. Retrieve the list of unique film titles in the dvdrental database that were rented more than 19 years, 1 month, and 8 days ago based on the most recent rental date. ***Dvdrental database, film,***

# inventory, and rental tables.

SELECT

title,

MAX(rental\_date) AS most\_recent\_rental FROM film AS F

INNER JOIN inventory AS I ON F.film\_id = I.film\_id INNER JOIN rental AS R

ON I.inventory\_id = R.inventory\_id GROUP BY F.film\_id

HAVING MAX(rental\_date) < (CURRENT\_DATE - INTERVAL '19 year 1 month 8 days');

1. Retrieve the number of employees hired in each year, but only include years where more than 5 employees were hired. Sort the years in a descending way. ***HR database, employees table.***

SELECT

DATE\_PART('year', hire\_date) AS year, COUNT(\*)

FROM employees

GROUP BY DATE\_PART('year', hire\_date) HAVING COUNT(\*) > 5

ORDER BY year DESC;

***Explanation:*** *This query finds films that were last rented more than 19 years, 1 month, and 8 days ago, based on the most recent rental date.*

1. Calculate the exact tenure of each employee (in years and months) since their hire date and display the result along with employee\_id, first\_name, last\_name, and department names. ***HR***

# database, employees and departments table.

SELECT

employee\_id, first\_name, last\_name, department\_name,

AGE(CURRENT\_DATE, hire\_date) AS Tenure FROM employees AS E

INNER JOIN departments AS D

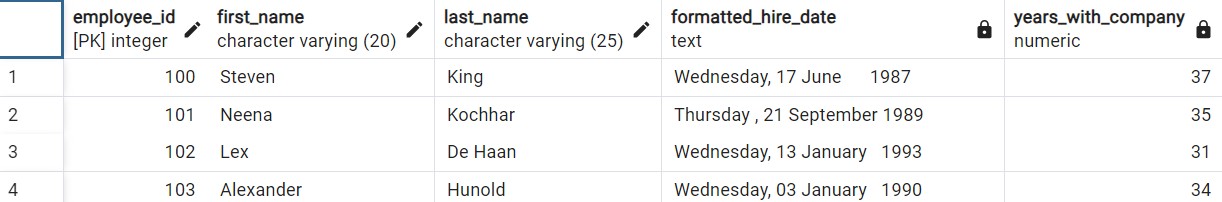
ON E.department\_id = D.department\_id;

***Explanation:*** *This query calculates the exact tenure (in years and months) for each employee, along with their department details, using the AGE() function.*

1. Display each employee’s hire date as shown below in the **formatted\_hire\_date column**, along

with how many years they’ve been with the company, employee\_id, first\_name, and last\_name**.**

# HR database, employees table.



SELECT

employee\_id, first\_name,

last\_name,

TO\_CHAR(hire\_date, 'Day, DD Month YYYY') AS formatted\_hire\_date, EXTRACT('year' FROM AGE(CURRENT\_DATE, hire\_date)) AS years\_with\_company FROM employees;

***Explanation:*** *This query formats each employee’s hire date and calculates the number of years they have been with the company, showing the result with employee ID, first name, and last name.*