HA NOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

*FINAL PROJECT QUERIES*

Subject: Car rental company database design

Database Lab

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Group 3:

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Lecturer:

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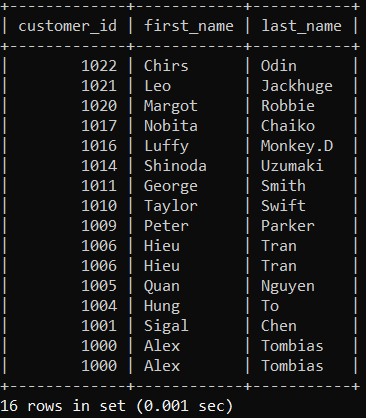
# SQL queries

1. Display customer id, his/her first name and last name of the customers with at least 1 cash payment, ordered by customer id in descending order.

SELECT c.customer\_id, c.first\_name, c.last\_name FROM customers c, payments p

WHERE c.customer\_id = p.customer\_id AND payment\_type LIKE ‘cash’

ORDER BY p.customer\_id DESC;

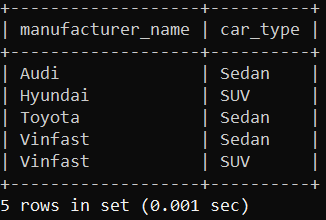


1. Display the manufacturer names and their car types if they produce at least one model of Sedan or SUV.

SELECT mn.manufacturer\_name, c.car\_type FROM manufacturers mn, models md, cars c

WHERE mn.manufacturer\_id = md.manufacturer\_id AND md.model\_id = c.model\_id AND car\_type IN (‘SUV’, ‘Sedan’)

GROUP BY manufacturer\_name, car\_type;

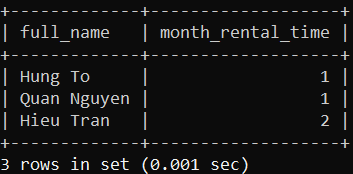


1. Display the first name, last name as full name and the rental time of the customers who rent a car for at least a month.

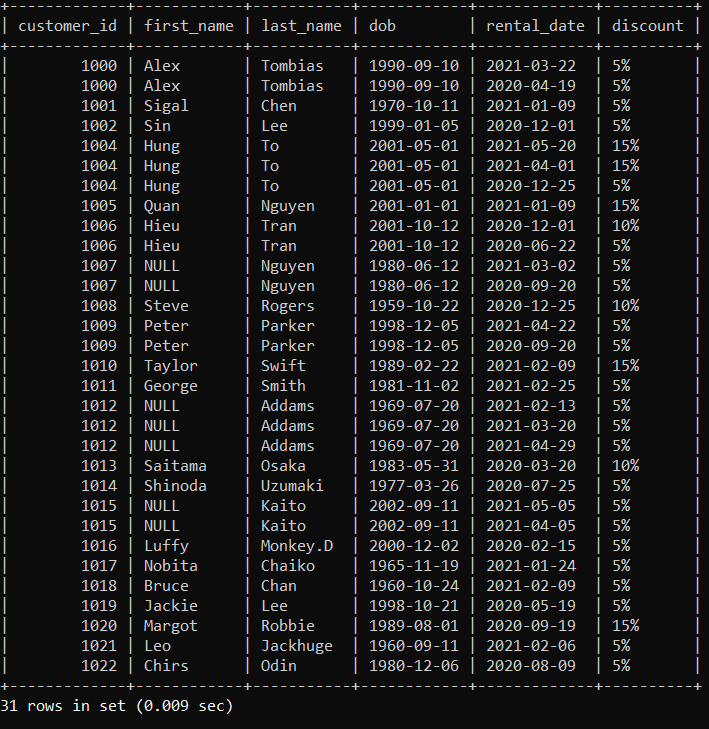
SELECT CONCAT(COALESCE(c.first\_name, ‘’), ‘ ‘, c.last\_name) AS full\_name, TIMESTAMPDIFF(month, r.rental\_date, r.return\_date) AS month\_rental\_time FROM customers c, rental r

WHERE c.customer\_id = r.customer\_id

AND TIMESTAMPDIFF(month, r.rental\_date, r.return\_date) >= 1;



1. The company is organzing a special event in which customer can obtain a discount voucher depending on some conditions. Every time a customer rent a car, if the difference between rental date and date of birth is smaller than 1 month then the discount value will be 15%, if the difference is between 1 and 2 months then the discount value will be 10%, else the discount value will be 5%. Display the customer information includes customer id, first name, last name, date of birth and discount value as discount.



1. Display the customer id, first name and last name as full name, city name and the the number of stores available in the cities where the customers live.

SELECT c.customer\_id, c.first\_name, c.last\_name, c.dob, r.rental\_date,

CASE

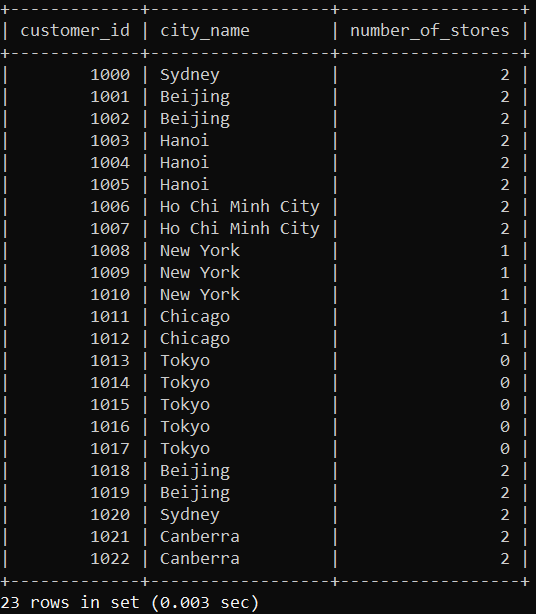
WHEN ABS(DATE\_FORMAT(c.dob, ‘%m’) - DATE\_FORMAT(r.rental\_date, ‘%m’)) <= 1 THEN ‘15%’

WHEN ABS(DATE\_FORMAT(c.dob, ‘%m’) - DATE\_FORMAT(r.rental\_date, ‘%m’)) > 2 THEN ‘5%’

ELSE ‘10%’ END AS discount

FROM customers c, rental r

WHERE c.customer\_id = r.customer\_id;



SELECT c.customer\_id, CONCAT(COALESCE(c.first\_name, ‘’), ‘ ‘, c.last\_name) AS full\_name, ci.city\_name, COUNT(s.store\_id) AS number\_of\_stores

FROM customers c LEFT JOIN (

addresses a LEFT JOIN cities ci

ON a.city\_id = ci.city\_id

LEFT JOIN stores s

ON ci.city\_id = s. city\_id

) ON c.address\_id = a.address\_id

GROUP BY c.customer\_id;

1. Display the car id, car type and rating of the cars which have the largest number of rented times.

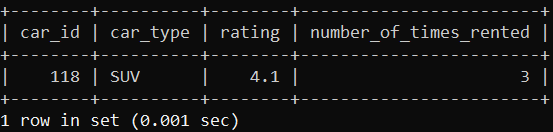
SELECT c.car\_id, c.car\_type, c.rating, COUNT(r.car\_id) as number\_of\_times\_rented

FROM cars c, rental r

WHERE c.car\_id = r.car\_id GROUP BY r.car\_id

HAVING COUNT(r.car\_id) >= ALL(select COUNT(car\_id) FROM rental

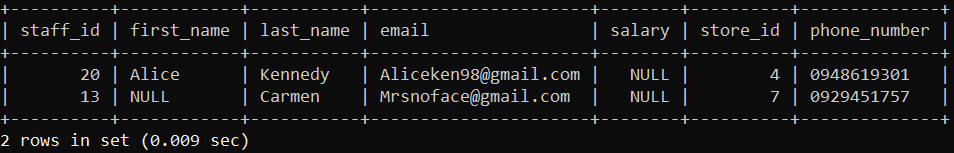
GROUP BY car\_id);



1. Display the information of the employees who have not been paid by their stores also display the information of those stores.

SELECT st.staff\_id, st.first\_name, st.last\_name, st.email, st.salary, s.store\_id, s.phone\_number FROM stores s, staff st

WHERE s.store\_id = st.store\_id AND st.salary is null;



1. For ecouraging employees to work harder, the company decided to pay a bonus comission based on the total amount of rental cost a store achieves. The commission is calculated by taking the sum of total cost multiply by 10% then divided by the number of staff a store has. Display all the store id, staff id, salary, commision and the final salary.

SELECT s.store\_id, st.staff\_id, st.salary, SUM(total\_cost)\*0.1/COUNT(st.staff\_id) AS revenue\_commission, COALESCE(salary, 0) + SUM(total\_cost)\*0.1/COUNT(st.staff\_id) AS final\_salary

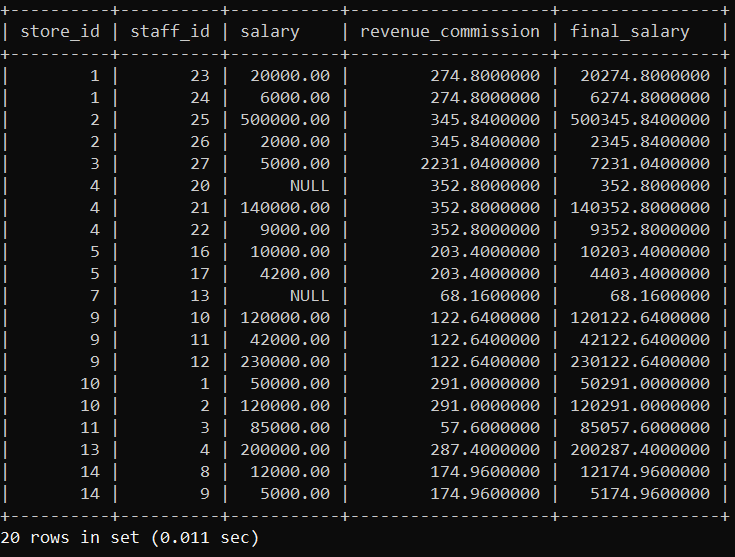
FROM staff st JOIN stores s

ON st.store\_id = s.store\_id JOIN cars c

ON c.store\_id = s.store\_id JOIN rental r

ON c.car\_id = r.car\_id

GROUP BY st.store\_id, st.staff\_id;



1. Display pairs of car ids in which the car id from the first column is rented with the cost per hour higher than that of the car id from the second column for every car within the same car type.

SELECT DISTINCT c1.car\_type, c1.car\_id, c2.car\_id, r1.cost\_per\_hour, r2.cost\_per\_hour FROM cars c1 JOIN cars c2

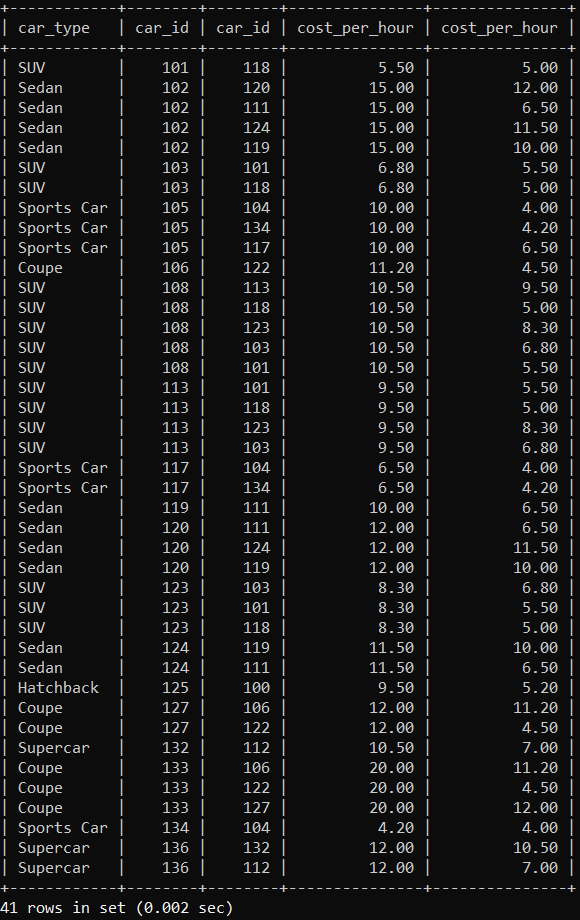
ON c1.car\_type = c2.car\_type JOIN rental r1

ON r1.car\_id = c1.car\_id JOIN rental r2

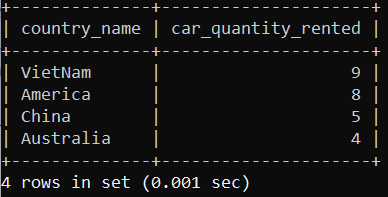
ON r2.car\_id = c2.car\_id

WHERE r1.cost\_per\_hour > r2.cost\_per\_hour

ORDER BY c1.car\_id;



1. Display the country names and the quantity of the cars rented in those countries not count for ‘Sports Car’. The number of cars rented is ordered descdingly.



SELECT country\_name, COUNT(r.car\_id) AS car\_quantity\_rented FROM countries c, cities ci, stores s, cars ca, rental r

WHERE c.country\_id = ci.country\_id

AND ci.city\_id = s.city\_id

AND s.store\_id = ca.store\_id

AND ca.car\_id = r.car\_id

AND ca.car\_type

NOT LIKE ‘Sports car’

GROUP BY country\_name ORDER BY car\_quantity\_rented DESC;