Ques 1 👍

Write a query to list all employees who earn above the average salary of their department. Display each employee's employee_id, department_id, salary, and the department's average salary, rounded to the nearest integer.

Ans :

```
Select employee_id,
      department_id,
      salary,
      round(dep_salary) as dep_salary
from
(Select employee_id,
      department_id,
      salary,
      avg(Salary) over(partition by department_id ) as dep_salary
from `hr_data.employees`) as t

where  salary > dep_salary
```

Ques 2:
Write a query to display details of employees who have the 3rd highest salary in each department. If multiple employees have the same salary as the 3rd highest in a department, include all of them. The output should include department_id, employee_id, employee_name (first and last name combined), salary

```
Select *
from
(Select employee_id,
     department_id,
     salary,
     concat(first_name, ' ', last_name) as full_name,
     dense_rank() over(partition by department_id order by salary desc) as rnk
from `hr_data.employees`
) as t
where rnk = 3
```

Ques 3:

Question 3: Divide employees within each department into four equal salary groups (quartiles). List each employee's employee_id, department_id, employee_name, salary, and their salary_quartile (indicating the quartile they fall into based on salary within their department).
--The 1st quartile should contain the employees with the highest salaries.
--The 4th quartile should contain the employees with the lowest salaries.

```
Select employee_id,
      department_id,
      salary,
      concat(first_name, ' ', last_name) as full_name,
      ntile(4) over( partition by department_id order by salary desc ) as quartiles
from `hr_data.employees` ;
```

Question 4: Write a query to display each employee's employee_id, department_id, salary, the salary of the next highest-paid employee, and the difference in salary between each employee and the next highest-paid employee in the company. Sort the results by salary and next_salary to show employees in ascending order of salary.

```
Select employee_id,
      department_id,
      salary,
      concat(first_name, ' ', last_name) as full_name,
      lead(salary,1) over(order by salary desc) as next_highest,
      salary - lead(salary,1) over(order by salary desc) as differnce
from `hr_data.employees`
order by salary desc;
```

Question 5: Write a query to display each employee's department_id, employee_id, hire_date, salary, the salary of the first employee hired in their department, and the salary of the most recently hired employee in their department. Sort the result by department_id

```
Select employee_id,
      department_id,
      salary,
```

concat(first_name, ' ', last_name) as full_name,
nth_value(salary,1) over(partition by department_id order by hire_date) as first_salary,
nth_value(salary,1) over(partition by department_id order by hire_date desc) as last_salary
from `hr_data.employees`
order by department_id, hire_date;

Or

```
Select employee_id,
      department_id,
      salary,
      concat(first_name, ' ', last_name) as full_name,
      last_value(salary) over(partition by department_id order by hire_date desc
rows between unbounded preceding and unbounded following) as last_salary
from `hr_data.employees`
order by department_id, hire_date;
```