**PRACTICE IMPORTANT SQL CONCEPT**

CREATE TABLE employee (

firstname varchar(20),

lastname varchar(20),

age int,

salary int,

location varchar(20)

);

INSERT INTO employee VALUES('sachin','sharma',28,10000,'bangalore');

INSERT INTO employee VALUES('shane','warne',30,20000,'bangalore');

INSERT INTO employee VALUES('rohit','sharma',32,30000,'hyderabad');

INSERT INTO employee VALUES('shikhar','dhawan',32,25000,'hyderabad');

INSERT INTO employee VALUES('rahul','dravid',31,20000,'bangalore');

INSERT INTO employee VALUES('sourabh','ganguly',32,15000,'pune');

INSERT INTO employee VALUES('kapil','dev',34,10000,'pune');

SELECT \* FROM employee;

OUTPUT :

Firstname lastname age salary location

sachin sharma 28 10000 bangalore

shane warne 30 20000 bangalore

rohit sharma 32 30000 hyderabad

shikhar dhawan 32 25000 hyderabad

rahul dravid 31 20000 bangalore

sourabh ganguly 32 15000 pune

kapil dev 34 10000 pune

-- Q1

SELECT location ,count(location) as Count,avg(salary) as Average from employee

group by location;

OUTPUT:

location Count Average

bangalore 3 16666.6667

hyderabad 2 27500.0000

pune 2 12500.0000

--Q2

SELECT firstname,lastname,location,count(location) as Count,avg(salary) as Average from employee

group by location;

ERROR 1055 (42000) at line 23: Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregated column 'db\_3xumx4jav.employee.firstname' which is not functionally dependent on columns in GROUP BY clause; this is incompatible with sql\_mode=only\_full\_group\_by

So we need to do join query for achieving this.

SELECT firstname, lastname, employee.location, total\_count, avg\_salary from employee join (select location, count(location) as total\_count, avg(salary) as avg\_salary from employee

group by location) temptable on employee.location = temptable.location;

OUTPUT:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| firstname | lastname | location | total\_count | avg\_salary |
| sachin | sharma | bangalore | 3 | 16666.6667 |
| shane | warne | bangalore | 3 | 16666.6667 |
| rohit | sharma | hyderabad | 2 | 27500.0000 |
| shikhar | dhawan | hyderabad | 2 | 27500.0000 |
| rahul | dravid | bangalore | 3 | 16666.6667 |
| sourabh | ganguly | pune | 2 | 12500.0000 |
| kapil | dev | pune | 2 | 12500.0000 |

Here We can use OVER PARTITION BY to achieve this in more efficient way.

select firstname, lastname, location,

count(location) OVER (PARTITION BY location) as total,

avg(salary) OVER (PARTITION BY location) as average

from employee;

OUTPUT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| firstname | lastname | location | total | average |
| sachin | sharma | bangalore | 3 | 16666.6667 |
| shane | warne | bangalore | 3 | 16666.6667 |
| rahul | dravid | bangalore | 3 | 16666.6667 |
| rohit | sharma | hyderabad | 2 | 27500.0000 |
| shikhar | dhawan | hyderabad | 2 | 27500.0000 |
| sourabh | ganguly | pune | 2 | 12500.0000 |
| kapil | dev | pune | 2 | 12500.0000 |

* To assign row number…

select firstname, lastname, salary,

row\_number() over (order by salary desc) as row\_num from employee;

OUTPUT:

|  |  |  |  |
| --- | --- | --- | --- |
| firstname | lastname | salary | row\_num |
| rohit | sharma | 30000 | 1 |
| shikhar | dhawan | 25000 | 2 |
| shane | warne | 20000 | 3 |
| rahul | dravid | 20000 | 4 |
| sourabh | ganguly | 15000 | 5 |
| sachin | sharma | 10000 | 6 |
| kapil | dev | 10000 | 7 |

* THE PROBLEM STATEMENT IS TO ASSIGN ROW NUMBER FOR PARTITIONS BASED ON EACH LOCATION.
* select firstname, lastname, location, salary,
* row\_number() over (PARTITION BY location ORDER BY salary desc) as row\_num from employee;

OUTPUT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| firstname | lastname | location | salary | row\_num |
| shane | warne | bangalore | 20000 | 1 |
| rahul | dravid | bangalore | 20000 | 2 |
| sachin | sharma | bangalore | 10000 | 3 |
| rohit | sharma | hyderabad | 30000 | 1 |
| shikhar | dhawan | hyderabad | 25000 | 2 |
| sourabh | ganguly | pune | 15000 | 1 |
| kapil | dev | pune | 10000 | 2 |

* THE PROBLEM STATEMENT IS TO FIND THE HIGHEST SALARY RECEIVER AT EACH LOCATION.

select \* from (select firstname, lastname, salary, location,

row\_number() over (partition by location order by salary desc)

as row\_num from employee) temptable where row\_num = 1;

OUTPUT:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| firstname | lastname | salary | location | row\_num |
| shane | warne | 20000 | bangalore | 1 |
| rohit | sharma | 30000 | hyderabad | 1 |
| sourabh | ganguly | 15000 | pune | 1 |

* FIND THE 2ND HIGHEST SALARY..

select \* from (select firstname, lastname, salary, location,

row\_number() over (order by salary desc)

as row\_num from employee) temptable where row\_num = 2;

OUTPUT:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| firstname | lastname | salary | location | row\_num |
| shikhar | dhawan | 25000 | hyderabad | 2 |