**“Shree Ganeshay Namah”**

**Questions:-**

1. **Table A(1 1 2 0 2 NULL) and B(NULL NULL 1 1 1 2). What is output of inner, left, right and full outer join?**
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33. **How to write sql query for the below scenario**
34. **How to fetch all the records from Employee who’s joining year is 2017?**
35. **What is SQL Query to find maximum salary of each department?**
36. **How Do you find all Employees with its managers?(Consider there is manager id also in Employee table)**
37. **How to display following using query?**
38. **How to add the email validation using only one query?**
39. **How to display 1 to 100 Numbers with query?**
40. **How to remove duplicate rows from table?**
41. **How to find count of duplicate rows?**
42. **How to find max salary of table?**
43. **How to find max salary of table and print employee details of that salary as well?**
44. **How to find all employee details along with new field of max salary of table?**
45. **How to find max salary of each department?**
46. **How to find max salary of each department and print employee details of that salary as well?**
47. **How to find all employee details along with new field of max salary of each department?**
48. **How to get number of employees, max salary and min salary of employee of each department?**
49. **What is avg salary of group 10?**
50. **If I have 100 rows in A table and 10million rows in B table. How much time it will take to execute query? Also if I have index on table A?**
51. **Find the list of employees who are not managers?**
52. **Find dept wise MAX salary of employee?**
53. **Find dept wise MAX salary of employee in year 2018?**
54. **How to find employees whose salary is greater than or equal to the average salary for their departments?**
55. **How to find primary key and foreign key of any table?**
56. **Table A(1,2,3,4,5) and B(1,2,3). How to find records exist in A but not in B and vise-versa?**
57. **How to find employee details whose start\_dtm is max?**
58. **How to extract those dept numbers which has more than 5 employees in it?**
59. **What is the output-select \* from bill\_itm where NULL=NULL;?**
60. **Scenario to find average salary?**
61. **Scenario:- Find top 2 salary of Male and Female from employee table?**

**Answers:-**

1. **Table A(1 1 2 0 2 NULL) and B(NULL NULL 1 1 1 2). What is output of inner, left, right and full outer join?**INNER JOIN:- 8 (1,1,1,1,1,1,2,2)

LEFT OUTER JOIN:- 10 (1,1,1,1,1,1,2,2,0,NULL)

RIGHT OUTER JOIN:- 10 (1,1,1,1,1,1,2,2,NULL,NULL)

FULL OUTER JOIN:- 12 (1,1,1,1,1,1,2,2,0,NULL,NULL,NULL)

1. **Table A(1,1,1,1) and B(1,1,1). What is output of inner, left, right and full outer join?**WITH temp\_1 AS

(

SELECT 1 A\_1 FROM DUAL

UNION ALL

SELECT 1 FROM DUAL

UNION ALL

SELECT 1 FROM DUAL

UNION ALL

SELECT 1 FROM DUAL

),

temp\_2 AS

(

SELECT 1 A\_2 FROM DUAL

UNION ALL

SELECT 1 FROM DUAL

UNION ALL

SELECT 1 FROM DUAL

)

SELECT \* FROM TEMP\_1 INNER JOIN TEMP\_2 ON TEMP\_1.A\_1 = TEMP\_2.A\_2;

INNER JOIN:- 12 (1,1,1, 1,1,1, 1,1,1, 1,1,1)

LEFT OUTER JOIN:- 12 (1,1,1, 1,1,1, 1,1,1, 1,1,1)

RIGHT OUTER JOIN:- 12 (1,1,1, 1,1,1, 1,1,1, 1,1,1)

FULL OUTER JOIN:- 12 (1,1,1, 1,1,1, 1,1,1, 1,1,1)

1. **Scenario of UNION, UNION ALL, INTERSECT, MINUS and Joins?**DROP TABLE A;

CREATE TABLE A(ID NUMBER(20));

INSERT INTO A VALUES(1);

INSERT INTO A VALUES(1);

INSERT INTO A VALUES(1);

INSERT INTO A VALUES(2);

INSERT INTO A VALUES(2);

INSERT INTO A VALUES(3);

INSERT INTO A VALUES(4);

INSERT INTO A VALUES('');

INSERT INTO A VALUES('');

COMMIT;

DROP TABLE B;

CREATE TABLE B(ID NUMBER(20));

INSERT INTO B VALUES(1);

INSERT INTO B VALUES(1);

INSERT INTO B VALUES(2);

INSERT INTO B VALUES(3);

INSERT INTO B VALUES('');

COMMIT;

SELECT \* FROM A;

--1,1,1,2,2,3,4,NULL,NULL

SELECT \* FROM B;

--1,1,2,3,NULL

SELECT ID FROM A

UNION

SELECT ID FROM B;

--1,2,3,4,NULL

SELECT ID FROM A

UNION ALL

SELECT ID FROM B;

--1,1,1,2,2,3,4,NULL,NULL,1,1,2,3,NULL

SELECT ID FROM A

INTERSECT

SELECT ID FROM B;

--1 2 3 NULL

SELECT ID FROM A

MINUS

SELECT ID FROM B;

--4

SELECT A.ID FROM A INNER JOIN B

ON A.ID=B.ID;

--1,1,1,1,1,1,2,2,3

SELECT A.ID FROM A LEFT OUTER JOIN B

ON A.ID=B.ID;

--1,1,1,1,1,1,2,2,3,NULL,NULL,4

SELECT A.ID FROM A RIGHT OUTER JOIN B

ON A.ID=B.ID;

--1,1,1,1,1,1,2,2,3,NULL

SELECT A.ID FROM A FULL OUTER JOIN B

ON A.ID=B.ID;

--1,1,1,1,1,1,2,2,3,4,NULL,NULL,NULL

SELECT A.ID FROM A,B

WHERE A.ID=B.ID;

--1,1,1,1,1,1,2,2,3

1. **Parent-Child Relationship or Primary-Foreign key relationship?**

**Parent Table:-**

Create table dept(dept\_no int PRIMARY KEY, dept\_nm varchar(20) not null);

**Child Table:-**

Create table emp(e\_id int PRIMARY KEY, e\_nm varchar(20) not null, dept\_no int, CONSTRAINT dept\_fk FOREIGN KEY(dept\_no) REFERENCES dept(dept\_no) );

Rules:-

Creation of Table:- First create Parent table than child table.

Insertion of rows:- First insert rows in parent table than insert in child table.

Ex:- Insert into emp values(4,'Mohit',104);

--integrity constraint (SYSTEM.DEPT\_FK) violated - parent key not found

Note:- Because dept\_no 104 is not present in parent table(dept).

Deletion of table:- First delete child table than delete parent table.

Ex:- Delete from dept where dept\_no=101;

--integrity constraint (SYSTEM.DEPT\_FK) violated - child record found

Note:- Because reference of dept\_no 101 is present on child table(emp).

1. **How to find duplicate records/rows in a table?**

DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

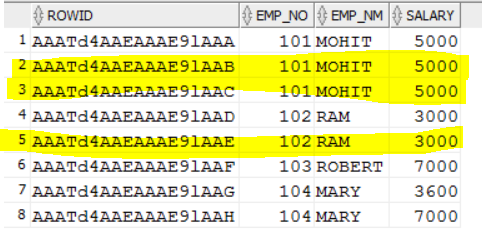
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (103,'ROBERT',7000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',3600);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',7000);

COMMIT;

SELECT ROWID,EMP\_NO,EMP\_NM,SALARY FROM EMPLOYEE;

**Query:-**

--1st WAY

SELECT \* FROM EMPLOYEE WHERE ROWID NOT IN

(SELECT MAX(ROWID) FROM EMPLOYEE GROUP BY EMP\_NO,EMP\_NM,SALARY);

--2nd WAY

SELECT \* FROM EMPLOYEE A WHERE ROWID NOT IN

(SELECT MAX(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO = B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--3rd WAY

SELECT \* FROM EMPLOYEE A WHERE ROWID<

(SELECT MAX(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--4th WAY

SELECT \* FROM EMPLOYEE A WHERE ROWID>

(SELECT MIN(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--5th WAY

SELECT \* FROM EMPLOYEE A WHERE EXISTS

(SELECT 1 FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY AND A.ROWID>B.ROWID);

--6th WAY USING ROW\_NUMBER()

SELECT \* FROM EMPLOYEE WHERE ROWID IN

(SELECT RID FROM

(SELECT ROWID RID, ROW\_NUMBER() OVER(PARTITION BY EMP\_NO,EMP\_NM,SALARY

ORDER BY EMP\_NO)RN FROM EMPLOYEE

)WHERE RN > 1

);

--7th WAY USING DENSE\_RANK()

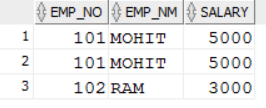
SELECT \* FROM EMPLOYEE WHERE ROWID IN

(SELECT RID FROM (SELECT ROWID RID, DENSE\_RANK() OVER (PARTITION BY EMP\_NO,EMP\_NM,SALARY

ORDER BY ROWID) RN FROM EMPLOYEE

)WHERE RN > 1

);



1. **How to delete duplicate records/rows in a table?**

--1st WAY

DELETE FROM EMPLOYEE WHERE ROWID NOT IN

(SELECT MAX(ROWID) FROM EMPLOYEE GROUP BY EMP\_NO,EMP\_NM,SALARY);

--2nd WAY

DELETE FROM EMPLOYEE A WHERE ROWID NOT IN

(SELECT MAX(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO = B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--3rd WAY

DELETE FROM EMPLOYEE A WHERE ROWID<

(SELECT MAX(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--4th WAY

DELETE FROM EMPLOYEE A WHERE ROWID>

(SELECT MIN(ROWID) FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY);

--5th WAY

DELETE FROM EMPLOYEE A WHERE EXISTS

(SELECT 1 FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO AND A.EMP\_NM=B.EMP\_NM AND A.SALARY=B.SALARY AND A.ROWID>B.ROWID);

--6th WAY USING ROW\_NUMBER()

DELETE FROM EMPLOYEE WHERE ROWID IN

(SELECT RID FROM(SELECT ROWID RID, ROW\_NUMBER() OVER(PARTITION BY EMP\_NO,EMP\_NM,SALARY ORDER BY EMP\_NO)RN FROM EMPLOYEE

)WHERE RN > 1

);

--7th WAY USING DENSE\_RANK()

DELETE FROM EMPLOYEE WHERE ROWID IN

(SELECT RID FROM(SELECT ROWID RID, DENSE\_RANK() OVER(PARTITION BY EMP\_NO,EMP\_NM,SALARY ORDER BY ROWID) RN FROM EMPLOYEE

)WHERE RN > 1

);

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1. **How to find second highest salary in a table?**DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

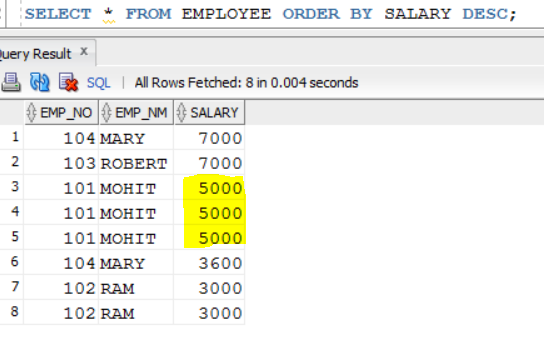
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (103,'ROBERT',7000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',3600);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',7000);

COMMIT;

SELECT \* FROM EMPLOYEE ORDER BY SALARY DESC;



**Query:-**

--1ST WAY

SELECT MIN(salary)FROM(SELECT DISTINCT salary FROM EMPLOYEE ORDER BY salary DESC)WHERE ROWNUM<=2;

--2ND WAY

SELECT MAX(SALARY) FROM EMPLOYEE WHERE SALARY NOT IN (SELECT MAX(SALARY) FROM EMPLOYEE);

--3RD WAY

SELECT MAX(SALARY) FROM EMPLOYEE WHERE SALARY < (SELECT MAX(SALARY) FROM EMPLOYEE);

--4TH WAY

SELECT SALARY FROM

(SELECT A.\*, ROWNUM RNUM FROM

(SELECT DISTINCT SALARY FROM EMPLOYEE ORDER BY SALARY DESC)A WHERE ROWNUM<=2

)B WHERE RNUM>=2;

--5TH WAY

SELECT DISTINCT SALARY FROM EMPLOYEE A WHERE (SELECT COUNT(DISTINCT B.SALARY) FROM EMPLOYEE B WHERE A.SALARY<=B.SALARY)=2;

--6TH WAY

SELECT SALARY FROM (SELECT DISTINCT SALARY,DENSE\_RANK()OVER (ORDER BY SALARY DESC)RANKING FROM EMPLOYEE)WHERE RANKING=2;



1. **How to find 10th highest salary of employee?**SELECT MIN(SALARY) FROM(SELECT DISTINCT SALARY FROM EMPLOYEE ORDER BY SALARY DESC) WHERE ROWNUM<=10;  
   

Although we are getting minimum salary of table.

1. **How to find second highest salary in a table based on dept\_no?**DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER,

"DEPT\_NO" NUMBER(\*,0)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (101,'MOHIT',5000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (102,'RAM',3000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

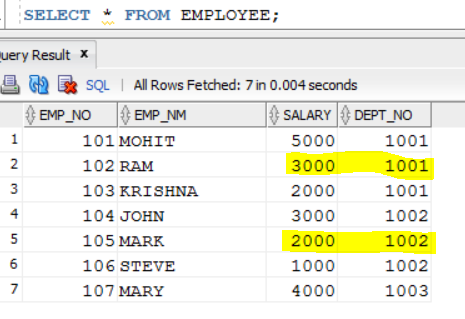
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (104,'JOHN',3000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (105,'MARK',2000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (106,'STEVE',1000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (107,'MARY',4000,1003);

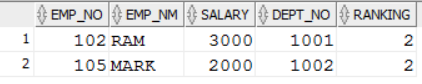
COMMIT;

SELECT \* FROM EMPLOYEE ORDER BY DEPT\_NO, SALARY DESC;

**Query:-**

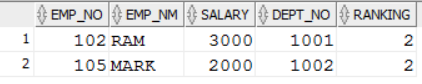
--1st way

SELECT \* FROM(SELECT EMP\_NO,EMP\_NM,SALARY,DEPT\_NO,DENSE\_RANK() OVER(PARTITION BY DEPT\_NO ORDER BY SALARY DESC) RANKING FROM EMPLOYEE)

WHERE RANKING = 2;  


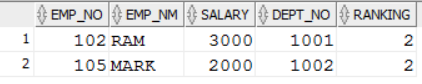
--2nd way

SELECT \* FROM(SELECT EMP\_NO,EMP\_NM,SALARY,DEPT\_NO,RANK() OVER(PARTITION BY DEPT\_NO ORDER BY SALARY DESC) RANKING FROM EMPLOYEE)

WHERE RANKING = 2;  


--3rd way

SELECT \* FROM(SELECT EMP\_NO,EMP\_NM,SALARY,DEPT\_NO,ROW\_NUMBER() OVER(PARTITION BY DEPT\_NO ORDER BY SALARY DESC) RANKING FROM EMPLOYEE)

WHERE RANKING = 2;  


--4th way

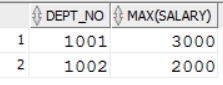
SELECT DEPT\_NO,MAX(SALARY)

FROM (SELECT A.DEPT\_NO,A.SALARY FROM EMPLOYEE A,(SELECT DEPT\_NO,MAX(SALARY) AS SALARY FROM EMPLOYEE GROUP BY DEPT\_NO) B

WHERE A.DEPT\_NO = B.DEPT\_NO

AND A.SALARY<B.SALARY) E

GROUP BY DEPT\_NO;



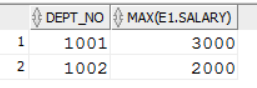
--5th way

SELECT e1.dept\_no ,max(e1.salary) FROM employee e1

WHERE salary < (SELECT max(salary) FROM employee e2

WHERE e2.dept\_no = e1.dept\_no)

GROUP BY e1.dept\_no;



1. **How to find EMPNO which is working on multiple department?**

DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER,

"DEPT\_NO" NUMBER(\*,0)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (101,'MOHIT',5000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (101,'RAM',3000,1002);

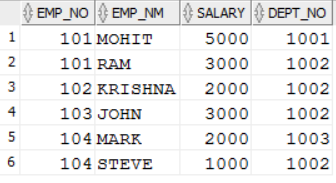
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (102,'KRISHNA',2000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'JOHN',3000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (104,'MARK',2000,1003);

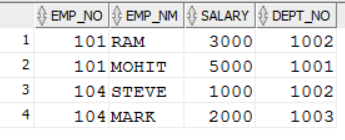
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (104,'STEVE',1000,1002);

COMMIT;

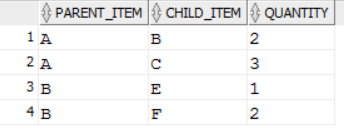
SELECT \* FROM EMPLOYEE;  


Select \* From EMPLOYEE A

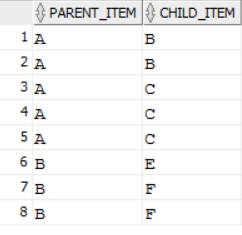
Where EXISTS (select 1 FROM EMPLOYEE B WHERE A.EMP\_NO=B.EMP\_NO

AND A.DEPT\_NO <> B.DEPT\_NO);

1. **Scenario:- How to convert single row into multiple rows?  
   Source Table:-**



**Target Table:-**



Solution:-

CREATE TABLE TEST (parent\_item varchar2(50),child\_item varchar2(50),quantity varchar2(50));

INSERT INTO TEST VALUES('A','B',2);

INSERT INTO TEST VALUES('A','C',3);

INSERT INTO TEST VALUES('B','E',1);

INSERT INTO TEST VALUES('B','F',2);

SELECT \* FROM TEST;

SELECT DISTINCT PARENT\_ITEM, CHILD\_ITEM, QUANTITY, LEVEL LEVEL\_TAG

FROM TEST CONNECT BY QUANTITY>=LEVEL

ORDER BY 1 ASC;

1. **Scenario:- How to convert single row into multiple rows?  
   Source Table:- A B C D**

**Target Table:-**

**A**

**A B**

**A B C**

**A B C D**Solution:-  
DROP TABLE TEST;

CREATE TABLE TEST(FIRST\_NAME VARCHAR2(25),MIDDLE\_NAME VARCHAR2(25),LAST\_NAME VARCHAR2(25));

INSERT INTO TEST values('A','B','C');

SELECT \* FROM TEST;

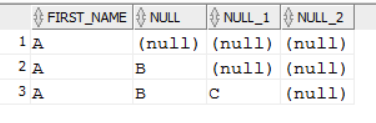
SELECT FIRST\_NAME,NULL,NULL,NULL FROM TEST

UNION

SELECT FIRST\_NAME,MIDDLE\_NAME,NULL,NULL FROM TEST

UNION

SELECT FIRST\_NAME,MIDDLE\_NAME,LAST\_NAME,NULL FROM TEST ORDER BY 1,2 desc,3 desc;



1. **Scenario:- How to convert multiple row into single row?  
   Source Table:-**

**1 Mumbai**

**2 Mumbai**

**3 Mumbai**

**1 Pune**

**2 Pune**

**Target Table:-**

**Mumbai 1 2 3**

**Pune 1 2**

Solution:-

CREATE TABLE TEST(CODE INTEGER,CITY\_NAME VARCHAR2(25));

INSERT INTO TEST values(1,'Mumbai');

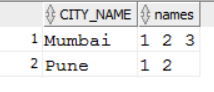
INSERT INTO TEST values(2,'Mumbai');

INSERT INTO TEST values(3,'Mumbai');

INSERT INTO TEST values(1,'Pune');

INSERT INTO TEST values(2,'Pune');

SELECT \* FROM TEST;

SELECT CITY\_NAME, LISTAGG(CODE, ' ') WITHIN GROUP (ORDER BY CODE) "names" FROM TEST GROUP BY CITY\_NAME;  


1. **Scenario:- Print previous row data?**

**Input:- Col1 1 2 3 4 5**

**Output:-**

**Col1 Col2**

**1 NULL**

**2 1**

**3 2**

**4 3**

**5 4**

SELECT OFFICE\_ID,LAG(OFFICE\_ID,1) OVER(ORDER BY OFFICE\_ID) FROM PIT\_STG.OFFIC;

1. **Scenario:- Sum of previous row data?**

**Input:- 1 2 3 4 5**

**Output:-**

**1 1**

**2 3**

**3 6**

**4 10**

**5 15**

SELECT OFFICE\_ID , (select sum(OFFICE\_ID) from PIT\_STG.OFFICE b where b.OFFICE\_ID<=a.OFFICE\_ID) as total from PIT\_STG.OFFICE a;

1. **Scenario:- Differentiate numbers and alphabets?**

**123ABCD**

**786AB56**

**BAHD786**

1. **How to fetch monthly salary of Employee if annual salary is given?**

SELECT emp\_nm,salary/12 AS MONTHLY\_salary FROM EMPLOYEE;

1. **What is the Query to fetch first record from Employee table?**

SELECT \* FROM EMPLOYEE WHERE ROWNUM =1;

1. **What is the Query to fetch last record from the table?**

SELECT \* FROM EMPLOYEE WHERE ROWID= (SELECT MAX(ROWID) FROM EMPLOYEE);

1. **What is Query to display last 5 Records from Employee table?**

SELECT \* FROM (SELECT \* FROM EMPLOYEE E ORDER BY ROWID DESC) WHERE ROWNUM <=5;

1. **What is Query to display Nth Record from Employee table?**

SELECT \* FROM ( SELECT A.\*, ROWNUM RNUM FROM ( SELECT \* from EMPLOYEE ) A WHERE ROWNUM <= 4 ) WHERE RNUM >= 4;

1. **How to get 3 Highest salaries records from Employee table?**

SELECT DISTINCT salary FROM EMPLOYEE A WHERE 3 >= (SELECT COUNT(DISTINCT salary) FROM EMPLOYEE B WHERE A.salary <= B.salary) ORDER BY A.salary DESC;

1. **How to Display Odd rows in Employee table?**

SELECT \* FROM(SELECT ROWNUM AS RNO,E.\* FROM EMPLOYEE E) WHERE MOD(RNO,2)=1;

1. **How to Display Even rows in Employee table?**

Select \* from(Select rownum as rno,E.\* from Employee e) where Mod(rno,2)=0;

1. **How to fetch 3rd highest salary using Rank Function?**

select \* from (Select Dense\_Rank() over ( order by salary desc) as Rnk,E.\* from Employee E) where Rnk=3;

1. **How Can i create table with same structure of Employee table?**

Create table Employee\_1 as Select \* from Employee where 1=2;

1. **How Can i create table with same structure with data of Employee table?**

Create table Employee1 as select \* from Employee;

1. **Display first 50% records from Employee table?**

select rownum, e.\* from Employee e where rownum<=(select count(\*)/2 from Employee);

1. **Display last 50% records from Employee table?**

Select rownum,E.\* from Employee E

minus

Select rownum,E.\* from Employee E where rownum<=(Select count(\*)/2 from Employee);

1. **How do i fetch only common records between 2 tables.**

Select \* from Employee;

Intersect

Select \* from Employee1;

1. **Find Query to get information of Employee where Employee is not assigned to the department**

Select \* from Employee where Dept\_no Not in(Select Department\_no from Employee);

1. **How to get distinct records from the table without using distinct keyword.**

select \* from Employee a where rowid = (select max(rowid) from Employee b where a.emp\_id=b.emp\_id);

1. **How to write sql query for the below scenario**

**I/p:ORACLE**

**O/p:**

**O**

**R**

**A**

**C**

**L**

**E**

**i.e, splitting into multiple columns a string using sql.**

Select Substr('ORACLE',Level,1) From Dual Connect By Level<= Length('ORACLE');

1. **How to fetch all the records from Employee who’s joining year is 2017?**

select \* from Employee where To\_char(Joining\_date,’YYYY’)='2017';

1. **What is SQL Query to find maximum salary of each department?**

Select Dept\_id,max(salary) from Employee group by Dept\_id;

1. **How Do you find all Employees with its managers?(Consider there is manager id also in Employee table)**

Select e.employee\_name,m.employee name from Employee e,Employee m where e.Employee\_id=m.Manager\_id;

1. **How to display following using query?**

**\***

**\*\***

**\*\*\***

**We cannot use dual table to display output given above. To display output use any table. I am using Student table.**

SELECT lpad ('\*', ROWNUM,'\*') FROM Employee WHERE ROWNUM <4;

1. **How to add the email validation using only one query?**

User needs to use REGEXP\_LIKE function for email validation.

SELECT Email FROM Employee where NOT REGEXP\_LIKE(Email, '[A-Z0-9.\_%+-]+@[A-Z0-9.-]+\.[A-Z]{2,4}', 'i');

1. **How to display 1 to 100 Numbers with query?**

Select level from dual connect by level <=100;

1. **How to remove duplicate rows from table?**

First Step: Selecting Duplicate rows from table

Tip: Use concept of max (rowid) of table. Click here to get concept of rowid.

Select emp\_id FROM Employee WHERE ROWID =

(Select max (rowid) from Employee b where emp\_id=b.emp\_id);

Step 2: Delete duplicate rows

Delete FROM Employee WHERE ROWID =

(Select max (rowid) from Employee b where emp\_id=b.emp\_id);

1. **How to find count of duplicate rows?**

Select emp\_id, count (emp\_id) from Employee Group by emp\_id Having count (emp\_id)>1

Order by count (emp\_id) desc;

1. **How to find max salary of table?**

DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (101,'MOHIT',5000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

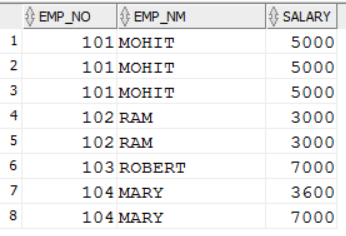
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (102,'RAM',3000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (103,'ROBERT',7000);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',3600);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY) VALUES (104,'MARY',7000);

COMMIT;

SELECT \* FROM EMPLOYEE;  


select max(salary) from employee;

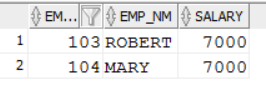
7000

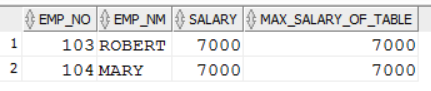
1. **How to find max salary of table and print employee details of that salary as well?**

**EMP\_NO, EMP\_NM, SALARY, MAX\_SALARY\_OF\_TABLE**

**105 Ram 7000 7000**

select \* from employee where salary in (select max(salary) from employee);

  
select \* from employee, (select max(salary) AS MAX\_SALARY\_OF\_TABLE from employee) A where salary in (select max(salary) from employee);

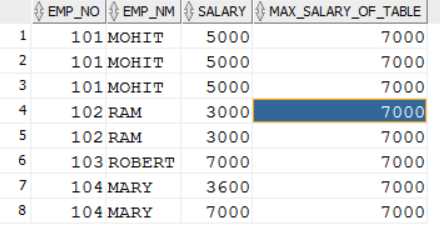


1. **How to find all employee details along with new field of max salary of table?**

**EMP\_NO, EMP\_NM, SALARY, MAX\_SALARY\_OF\_TABLE**

**101 Ram 3000 7000**

**102 Krishna 2000 7000**select \* from employee,(select max(salary) AS MAX\_SALARY\_OF\_TABLE from employee) A;



1. **How to find max salary of each department?  
   DEPT\_NO, MAX(SALARY)**

**1001 5000**

**1002 8000**DROP TABLE "EMPLOYEE";

CREATE TABLE "EMPLOYEE"

( "EMP\_NO" NUMBER(\*,0),

"EMP\_NM" VARCHAR2(20 BYTE),

"SALARY" NUMBER,

"DEPT\_NO" NUMBER(\*,0)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (101,'MOHIT',5000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (102,'RAM',3000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

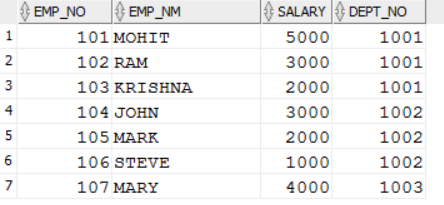
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (104,'JOHN',3000,1002);

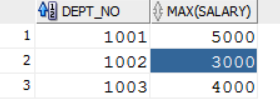
INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (105,'MARK',2000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (106,'STEVE',1000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (107,'MARY',4000,1003);

COMMIT;

SELECT \* FROM EMPLOYEE;  


select dept\_no, max(salary) from employee group by dept\_no;  


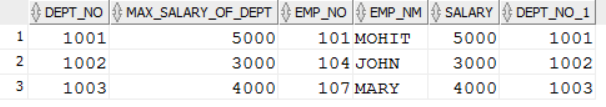
1. **How to find max salary of each department and print employee details of that salary as well?**

**EMP\_NO, EMP\_NM, SALARY, DEPT\_NO, MAX\_SALARY\_OF\_DEPT**

**101 Ram 7000 1111 7000**

**103 Krishna 8000 2222 8000**

select \* from (select dept\_no,max(salary) AS MAX\_SALARY\_OF\_DEPT from employee group by dept\_no) A, employee e where A.dept\_no=e.dept\_no and a.MAX\_SALARY\_OF\_DEPT=e.salary;



1. **How to find all employee details along with new field of max salary of each department?**

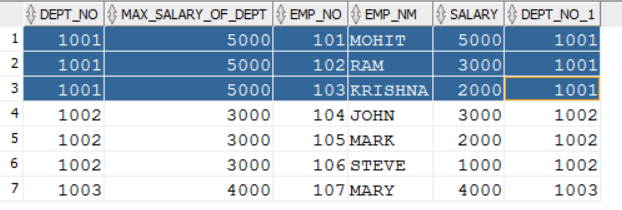
**EMP\_NO, EMP\_NM, SALARY, DEPT\_NO, MAX\_SALARY\_OF\_DEPT**

**101 Ram 3000 1111 7000**

**102 Shyam 4000 1111 7000**

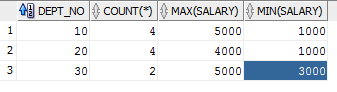
**103 Krishna 2000 2222 8000**

select \* from (select dept\_no, max(salary) AS MAX\_SALARY\_OF\_DEPT from employee group by dept\_no) A, employee e where A.dept\_no=e.dept\_no;



1. **How to get number of employees, max salary and min salary of employee of each department?**

select dept\_no,count(\*),max(salary),min(salary) from RDO.EMPLOYEE group by dept\_no;



1. **What is avg salary of group 10?**

EMP\_ID NAME SALARY DEPT\_NO

101 Ram 4000 10

102 Shyam 2000 10

103 Krishna NULL 10

select dept\_no,count(\*),avg(salary) from rdo.employee group by dept\_no;

--3000

select dept\_no,count(\*),avg(NVL(salary,0)) from rdo.employee group by dept\_no;

--2000

1. **If I have 100 rows in A table and 10million rows in B table. How much time it will take to execute query?Also if I have index on table A?**

It depends on database which we are using.

If there are 100 rows in table with index then it won't impact more w.r.t. performance because will prefer to create index if we have millions of records in table.

1. **Find the list of employees who are not managers?**DROP TABLE EMPLOYEE;

CREATE TABLE EMPLOYEE

( EMP\_NO NUMBER(20),

EMP\_NM VARCHAR2(20 BYTE),

SALARY NUMBER,

DEPT\_NO NUMBER(20),

MGR\_NO NUMBER(20)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE VALUES (101,'MOHIT',5000,1001,105);

INSERT INTO EMPLOYEE VALUES (102,'RAM',3000,1001,105);

INSERT INTO EMPLOYEE VALUES (103,'KRISHNA',2000,1001,107);

INSERT INTO EMPLOYEE VALUES (104,'JOHN',3000,1002,107);

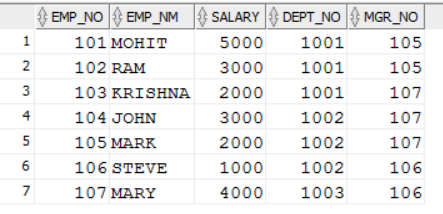
INSERT INTO EMPLOYEE VALUES (105,'MARK',2000,1002,107);

INSERT INTO EMPLOYEE VALUES (106,'STEVE',1000,1002,106);

INSERT INTO EMPLOYEE VALUES (107,'MARY',4000,1003,106);

COMMIT;

SELECT \* FROM EMPLOYEE ORDER BY DEPT\_NO;



SELECT EMP\_NO FROM EMPLOYEE

WHERE EMP\_NO NOT IN (SELECT NVL(MGR\_NO,0) FROM EMPLOYEE);

--101,102,103,104

SELECT EMP\_NO FROM EMPLOYEE A

WHERE EMP\_NO NOT IN (SELECT NVL(MGR\_NO,0) FROM EMPLOYEE B where A.EMP\_NO=B.MGR\_NO);

--101,102,103,104

SELECT EMP\_NO FROM EMPLOYEE

WHERE EMP\_NO NOT IN (SELECT DISTINCT MGR\_NO FROM EMPLOYEE WHERE MGR\_NO IS NOT NULL);

--101,102,103,104.

1. **Find dept wise MAX salary of employee?**

DROP TABLE EMPLOYEE;

CREATE TABLE EMPLOYEE

( EMP\_NO NUMBER(20),

EMP\_NM VARCHAR2(20 BYTE),

SALARY NUMBER,

DEPT\_NO NUMBER(20),

YEAR TIMESTAMP

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE VALUES (101,'MOHIT',5000,1001,TO\_DATE('01-JAN-2018','DD-MON-YYYY'));

INSERT INTO EMPLOYEE VALUES (102,'RAM',3000,1001,TO\_DATE('01-JAN-2018','DD-MON-YYYY'));

INSERT INTO EMPLOYEE VALUES (103,'KRISHNA',2000,1001,TO\_DATE('01-JAN-2019','DD-MON-YYYY'));

INSERT INTO EMPLOYEE VALUES (104,'JOHN',3000,1002,TO\_DATE('01-JAN-2020','DD-MON-YYYY'));

INSERT INTO EMPLOYEE VALUES (105,'MARK',2000,1002,TO\_DATE('01-JAN-2020','DD-MON-YYYY'));

INSERT INTO EMPLOYEE VALUES (106,'STEVE',1000,1002,TO\_DATE('01-JAN-2018','DD-MON-YYYY'));

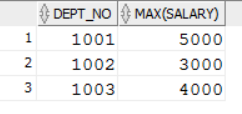
INSERT INTO EMPLOYEE VALUES (107,'MARY',4000,1003,TO\_DATE('01-JAN-2019','DD-MON-YYYY'));

COMMIT;

SELECT \* FROM EMPLOYEE;

SELECT DEPT\_NO, MAX(SALARY)

FROM EMPLOYEE GROUP BY DEPT\_NO ORDER BY DEPT\_NO;



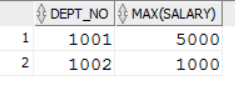
1. **Find dept wise MAX salary of employee in year 2018?**

SELECT DEPT\_NO, MAX(SALARY)

FROM EMPLOYEE

where YEAR='01-JAN-2018'

GROUP BY DEPT\_NO ORDER BY DEPT\_NO;



1. **How to find employees whose salary is greater than or equal to the average salary for their departments?**

DROP TABLE EMPLOYEE;

CREATE TABLE EMPLOYEE

( EMP\_NO NUMBER(38,0) NOT NULL,

EMP\_NAME VARCHAR2(50 CHAR),

SALARY NUMBER(38,0),

DEPT\_NM VARCHAR2(50 CHAR),

CONSTRAINT PK\_SRC\_EMP PRIMARY KEY (EMP\_NO)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE VALUES(101,'JOHN',1000,'HR');

INSERT INTO EMPLOYEE VALUES(102,'SAM',2000,'HR');

INSERT INTO EMPLOYEE VALUES(103,'SHAWN',3000,'HR');

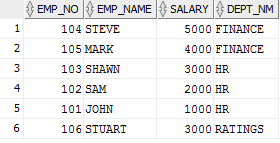
INSERT INTO EMPLOYEE VALUES(104,'STEVE',5000,'FINANCE');

INSERT INTO EMPLOYEE VALUES(105,'MARK',4000,'FINANCE');

INSERT INTO EMPLOYEE VALUES(106,'STUART',3000,'RATINGS');

COMMIT;

SELECT \* FROM EMPLOYEE ORDER BY DEPT\_NM,SALARY DESC;

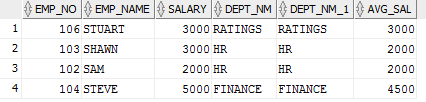


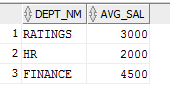
SELECT \* FROM EMPLOYEE A,(SELECT DEPT\_NM, AVG(SALARY) AS AVG\_SAL FROM EMPLOYEE

GROUP BY DEPT\_NM

)B

WHERE A.DEPT\_NM=B.DEPT\_NM AND A.SALARY>=B.AVG\_SAL;



Note:-   
select dept\_nm, AVG(SALARY) AS AVG\_SAL from employee group by dept\_nm;  


1. **How to find primary key and foreign key of any table?**

SELECT ac.table\_name,

column\_name,

ac.constraint\_name,

DECODE (constraint\_type, 'P', 'Primary Key', 'Foreign Key') key\_type,

(SELECT ac2.table\_name FROM all\_constraints ac2 WHERE AC2.CONSTRAINT\_NAME = AC.R\_CONSTRAINT\_NAME) fK\_to\_table

FROM all\_cons\_columns acc, all\_constraints ac

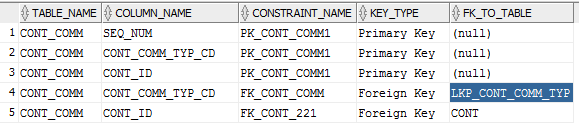
WHERE acc.constraint\_name = ac.constraint\_name

AND acc.table\_name = ac.table\_name

AND CONSTRAINT\_TYPE IN ('P', 'R')

AND ac.table\_name = 'CONT\_COMM'

ORDER BY table\_name, constraint\_type;



1. **Table A(1,2,3,4,5) and B(1,2,3). How to find records exist in A but not in B and vise-versa?**

create table A(id int);

insert into a values(1);

insert into a values(2);

insert into a values(3);

insert into a values(4);

insert into a values(5);

insert into a values('');

insert into a values('');

commit;

create table B(id int);

insert into B values(1);

insert into B values(2);

insert into B values(3);

insert into B values('');

commit;

select \* from A;

select \* from B;

select \* from a

minus

select \* from b;

--4,5

select \* from b

minus

select \* from a;

--No records

1. **How to find employee details whose start\_dtm is max?**

Drop table employee;

create table employee(emp\_id int, emp\_nm varchar2(50),start\_dtm timestamp, end\_dtm timestamp);

insert into employee values(2356,'ABC',TO\_DATE('01-JAN-2015','DD-MON-YYYY'),TO\_DATE('01-DEC-2015','DD-MON-YYYY'));

insert into employee values(2356,'ABC',TO\_DATE('01-JAN-2016','DD-MON-YYYY'),TO\_DATE('01-DEC-2016','DD-MON-YYYY'));

insert into employee values(2356,'ABC',TO\_DATE('01-JAN-2017','DD-MON-YYYY'),TO\_DATE('01-DEC-2017','DD-MON-YYYY'));

commit;

select \* from employee;

SELECT \* FROM employee A

WHERE A.START\_DTM = (SELECT MAX(START\_DTM) FROM EMPLOYEE B WHERE B.emp\_id = A.emp\_id AND B.emp\_nm = A.emp\_nm);

--2356 ABC 01-JAN-2017 12.00.00.000000000 AM 01-DEC-2017 12.00.00.000000000 AM

1. **How to extract those dept numbers which has more than 5 employees in it?**

DROP TABLE EMPLOYEE;

CREATE TABLE EMPLOYEE

( EMP\_NO NUMBER(20),

EMP\_NM VARCHAR2(20 BYTE),

SALARY NUMBER,

DEPT\_NO NUMBER(20)

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (101,'MOHIT',5000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (102,'RAM',3000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (103,'KRISHNA',2000,1001);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (104,'JOHN',3000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (105,'MARK',2000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (106,'STEVE',1000,1002);

INSERT INTO EMPLOYEE (EMP\_NO,EMP\_NM,SALARY,DEPT\_NO) VALUES (107,'MARY',4000,1003);

COMMIT;

SELECT \* FROM EMPLOYEE;

select dept\_no, count(\*) from employee group by dept\_no

having count(\*)>5;

1. **What is the output-select \* from bill\_itm where NULL=NULL;?**

select \* from bill\_itm where NULL=NULL;

--No data

Because Oracle cannot NULL with NULL.

select \* from dual where NULL=NULL;

--No data

select \* from dual where 1=1;

--X

1. **Scenario to find average salary?**

**Suppose we have the EMP table as our source. In the target we want to view those employees whose salary are greater than or equal to the average salary for their departments. Describe your mapping approach?**???

1. **Scenario:- Find top 2 salary of Male and Female from employee table?**

DROP TABLE EMPLOYEE;

CREATE TABLE EMPLOYEE

( EMP\_NO NUMBER(\*,0),

EMP\_NM VARCHAR2(20 BYTE),

GENDER VARCHAR2(20 BYTE),

SALARY NUMBER

);

TRUNCATE TABLE EMPLOYEE;

INSERT INTO EMPLOYEE VALUES (101,'A','M',8000);

INSERT INTO EMPLOYEE VALUES (102,'B','M',1000);

INSERT INTO EMPLOYEE VALUES (103,'C','M',4000);

INSERT INTO EMPLOYEE VALUES (104,'D','M',2000);

INSERT INTO EMPLOYEE VALUES (105,'W','F',1000);

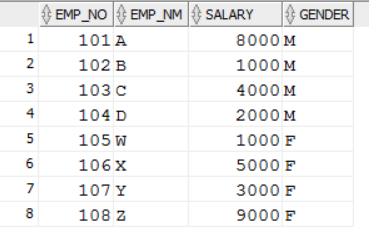
INSERT INTO EMPLOYEE VALUES (106,'X','F',5000);

INSERT INTO EMPLOYEE VALUES (107,'Y','F',3000);

INSERT INTO EMPLOYEE VALUES (108,'Z','F',9000);

COMMIT;

SELECT \* FROM EMPLOYEE ORDER BY SALARY DESC;



**Logic:-**  
SELECT \* FROM

(SELECT EMP\_NO,EMP\_NM,GENDER,SALARY,

RANK() OVER(PARTITION BY GENDER ORDER BY SALARY DESC) AS MAX\_ROWNUM

FROM EMPLOYEE)

WHERE MAX\_ROWNUM<=2;

