**Types of Sub queries:**   
  
There are two types of sub queries in oracle:

* Single Row Sub queries: The sub query returns only one row. Use single row comparison operators like =, > etc while doing comparisons.
* Multiple Row Sub queries: The sub query returns more than one row. Use multiple row comparison operators like IN, ANY, ALL in the comparisons.

**Single Row Sub query Examples**

**1.** Write a query to find the salary of employees whose salary is greater than the salary of employee whose id is 7566?

SELECT empno

, sal

FROM emp

WHERE sal > (SELECT sal

FROM emp

WHERE empno = 7566)

2. Write a query to find the employees who all are earning the highest salary?

SELECT empno

, ename

, sal

FROM emp

WHERE sal = (SELECT MAX (sal)

FROM emp)

**3.** Write a query to find the departments in which the least salary is greater than the highest salary in the department of id 20?

SELECT deptno

, MIN (sal)

FROM emp

GROUP BY deptno

HAVING MIN (sal) > (SELECT MAX (sal)

FROM emp

WHERE deptno = 20)

**Multiple Row Sub query Examples**

**1.** Write a query to find the employees whose salary is equal to the salary of at least one employee in department of id 30?

SELECT empno

, sal

, deptno

FROM emp

WHERE sal IN (SELECT sal

FROM emp

WHERE deptno = 30)

**2.** Write a query to find the employees whose salary is greater than at least on employee in department of id 10?

SELECT empno

, sal

, deptno

FROM emp

WHERE sal > ANY (SELECT sal

FROM emp

WHERE deptno = 10)

AND deptno! = 10

**3.** Write a query to find the employees whose salary is less than the salary of all employees in department of id 10?

SELECT empno

, sal

, deptno

FROM emp

WHERE sal < ALL (SELECT sal

FROM emp

WHERE deptno = 10);

**4.** Write a query to find the employees whose manager and department should match with the employee of dept id 20 or 30? 

SELECT empno

, mgr

, deptno

FROM emp

WHERE (mgr, deptno) IN (SELECT mgr

, deptno

FROM emp

WHERE deptno IN (20, 20))

**5.** Write a query to get the department name of an employee?

SELECT empno

, deptno

, (SELECT dname

FROM dept d

WHERE d.deptno = e.deptno)

FROM emp e

**Correlated Sub Queries Examples**

Correlated sub query is used for row by row processing. The sub query is executed for each row of the main query.  
  
**1.** Write a query to find the highest earning employee in each department? 

SELECT deptno

, empno

, sal

FROM emp e\_o

WHERE 1 = (SELECT COUNT (DISTINCT sal)

FROM emp e\_i

WHERE e\_o.deptno = e\_i.deptno

AND e\_o.sal <= e\_i.sal);

**2.** Write a query to list the department names which have at lease one employee? 

SELECT deptno

, dname

FROM dept d

WHERE EXISTS (SELECT 1

FROM emp e

WHERE e.deptno = d.deptno)

**3.** Write a query to find the departments which do not have employees at all? 

SELECT deptno

, dname

FROM dept d

WHERE NOT EXISTS (SELECT 1

FROM emp e

WHERE e.deptno = d.deptno)