TATA CONSULTANCY SERVICES

Sub Queries – Introduction to Sub Queries

Version 1.0

1 - INTRODUCTION TO SUB QUERIES

1.1 Sub Query

A subquery is a query nested within another query. The containing query is called an outer query. A subquery in turn can have a nested query, making it a multiple nested query.

Syntax:

> **SELECT column_list**
> **FROM table_name**
> **WHERE**
> **Column_name operator (SELECT column_list FROM table_name);**

Subqueries can be used almost anywhere in an SQL statement, in any SQL command where an expression can be placed. Following are listed SQL statement clauses in which a subquery can be placed:

- SELECT clause.
- WHERE clause.
- ORDER BY clause.
- FROM clause (Inline view).
- VALUES clause of an INSERT statement.
- SET clause of an Update statement
- Create table statement

<u>Guidelines:</u>

While defining sub queries , certain guidelines need to be followed.
- A sub query must be enclosed within parenthesis.
- A sub query must appear on the right hand side of the operator.
- A sub query must not contain an ORDER BY clause.

Example:

Consider the table SQ_EMPLOYEE

```
SQL> select * from SQ_EMPLOYEE;

EMPNAME          EMPID          AGE       SALARY LOCATION
---------- ----------- ----------- ----------- ----------
Vivek             1116          34        10000 TN
Vinod             1178          27        10009 BR
Shanti            1200          25         9900 DH
Harini            1000          45        15000 AP
Fharah            1115          34        13000 TN
Zaria             1203          25        11000 AP
Rohit             1155          30        12000 DH

7 rows selected.
```

The average salary of the employees is

> **Select avg(salary) from SQ_Employee**

```
SQL> Select avg(salary) from SQ_Employee;

AVG(SALARY)
-----------
 11558.4286
```

So if you want to find out the details of all the employees that get a salary that is greater than the average then you have to use the following query

> **select * from SQ_Employee E where**
> **e.salary > 11558;**

```
SQL> select * from SQ_Employee E where e.salary > 11558;

EMPNAME          EMPID          AGE       SALARY LOCATION
---------- ----------- ----------- ----------- ----------
Harini            1000          45        15000 AP
Fharah            1115          34        13000 TN
Rohit             1155          30        12000 DH
```

Or we can combine both the queries like this

> **select * from SQ_Employee E where**
> **e.salary > (Select avg(salary) from SQ_Employee)**

```
SQL> select * from SQ_Employee E where
  2   e.salary > (select avg(salary) from SQ_Employee);

EMPNAME          EMPID          AGE       SALARY LOCATION
---------- ----------- ----------- ----------- ----------
Harini            1000          45        15000 AP
Fharah            1115          34        13000 TN
Rohit             1155          30        12000 DH
```

If you want to find out the employees who are in the same location as the employee 'Vivek' then

select * from SQ_Employee E where
e.location = (select location from SQ_Employee
where empname = 'Vivek');

```
SQL> select * from SQ_Employee E where
  2  e.location = (select location from SQ_Employee
  3  where empname = 'Vivek');

EMPNAME            EMPID          AGE        SALARY LOCATION
---------------    ----------     --------   -------------- ----------
Vivek              1116           34         10000 TN
Fharah             1115           34         13000 TN
```