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

Guidelines:

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
```