ACTIVITY-08

**1.Identify need of sub queries.**

* A Subquery is a query within another SQL query and embedded within the WHERE clause.

Important Rule:

* A subquery can be placed in a number of SQL clauses like WHERE clause, FROM clause, HAVING clause.
* You can use Subquery with SELECT, UPDATE, INSERT, DELETE statements along with the operators like =, <, >, >=, <=, IN, BETWEEN, etc.
* A subquery is a query within another query. The outer query is known as the main query, and the inner query is known as a subquery.
* Subqueries are on the right side of the comparison operator.
* A subquery is enclosed in parentheses.
* In the Subquery, ORDER BY command cannot be used. But GROUP BY command can be used to perform the same function as ORDER BY command.

**1.Subqueries with the select statement**

* SQL subqueries are most frequently used with the Select statement.

**Syntax**

SELECT column\_name

FROM table\_name

WHERE column\_name expression operator

( SELECT column\_name from table\_name WHERE … );

**Example**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | NAME | AGE | ADDRESS | SALARY |
| 1 | John | 20 | US | 2000.00 |
| 2 | Stephan | 26 | Dubai | 1500.00 |
| 3 | David | 27 | Bangkok | 2000.00 |
| 4 | Alina | 29 | UK | 6500.00 |
| 6 | Kathrin | 24 | Banglore | 8500.00 |
| 7 | Harry | 34 | China | 4500.00 |
| 8 | Jackson | 25 | Mizoram | 10000.00 |

* Consider the EMPLOYEE table have the following records:
* The subquery with a SELECT statement will be

SELECT \*

FROM EMPLOYEE

   WHERE ID IN (SELECT ID

FROM EMPLOYEE

  WHERE SALARY > 4500);

* This would produce the following result:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | NAME | AGE | ADDRES | SALARY |
| 1 | Alina | 29 | UK | 6500.00 |
| 2 | Kathrin | 34 | Banglore | 8500.00 |
| 3 | Jackson | 25 | Mizoram | 10000.00 |

**2.Subqueries with the INSERT statement.**

* SQL subquery can also be used with the Insert statement. In the insert statement, data returned from the subquery is used to insert into another table.
* In the subquery, the selected data can be modified with any of the character, date functions.

**Syntax:**

INSERT INTO table\_name (column1, column2, column3....)

SELECT \*

FROM table\_name

WHERE VALUE OPERATOR

**Example**

* Consider a table EMPLOYEE\_BKP with similar as EMPLOYEE.

Now use the following syntax to copy the complete EMPLOYEE table into the EMPLOYEE\_BKP table.

INSERT INTO EMPLOYEE\_BKP

SELECT \* FROM EMPLOYEE

WHERE ID IN (SELECT ID

FROM EMPLOYEE);

## **3.Subquesries with the UPDATE statement**

**Syntax:**

UPDATE table

SET column\_name = new\_value

WHERE VALUE OPERATOR

(SELECT COLUMN\_NAME

FROM TABLE\_NAME

WHERE condition);

**Example**

* Let's assume we have an EMPLOYEE\_BKP table available which is backup of EMPLOYEE table.The given example updates the SALARY by .25 times in the EMPLOYEE table for all employee whose AGE is greater than or equal to 29.

UPDATE EMPLOYEE

SET SALARY = SALARY \* 0.25

WHERE AGE IN (SELECT AGE FROM CUSTOMERS\_BKP

WHERE AGE>=29);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | NAME | AGE | ADDRESS | SALARY |
| 1 | John | 20 | US | 2000.00 |
| 2 | Stephan | 26 | Dubai | 1500.00 |
| 3 | David | 27 | Bangkok | 2000.00 |
| 4 | Alina | 29 | UK | 1625.00 |
| 5 | Kathrin | 34 | Banglore | 2125.00 |
| 6 | Harry | 42 | China | 1125.00 |
| 7 | Jockson | 25 | Mizoram | 10000.00 |

* This would impact three rows, and finally, the EMPLOYEE table would have the following records.

**4. Subqueries with the DELETE Statement**

* The Subquery of SQL can be used in conjunction with the Delete statement just like any other statements mentioned above.

**Syntax**

DELETE FROM TABLE\_NAME

WHERE VALUE OPERATOR

(SELECT COLUMN\_NAME

FROM TABLE\_NAME

WHERE condition);

**Example**

* Let's assume we have an EMPLOYEE\_BKP table available which is backup of EMPLOYEE table. The given example deletes the records from the EMPLOYEE table for all EMPLOYEE whose AGE is greater than or equal to 29.

DELETE FROM EMPLOYEE

WHERE AGE IN (SELECT AGE FROM EMPLOYEE\_BKP

WHERE AGE >= 29 );

* This would impact three rows,and finally,the EMPLOYEE table woulid have the following records.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | NAME | AGE | ADDRESS | SALARY |
| 1 | John | 20 | US | 2000.00 |
| 2 | Stephan | 26 | Dubai | 1500.00 |
| 3 | David | 27 | Bangkok | 2000.00 |
| 4 | Jackson | 25 | Mizoram | 10000.00 |