DML and DCL – Advanced DML

Insert Query – Advanced Options

Copy and Insert

Syntax:-

```
INSERT INTO table_name [(column list)] (sub query);
```

Example:-

```
INSERT INTO Student_Total_Marks
(SELECT m.student_id, sum(m.marks) AS Total_Marks
    FROM tc_marks m GROUP BY m.student_id);
```


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Copy and Insert

Here the output of the subquery (the select query inside the brackets) will be inserted into the table

```
SQL> select * from Student_Total_Marks;

no rows selected

SQL> Insert into Student_Total_Marks
  2  (select m.student_id, sum(m.marks) as Total_Marks
  3  from tc_marks m group by m.student_id);

7 rows created.

SQL> commit;

Commit complete.

SQL>
SQL> select * from Student_Total_Marks;

STUDENT_ID TOTAL_MARKS
---------- -----------
      1003         327
      1006         307
      1001         381
      1002         307
      1007         266
      1004         171
      1005         229

7 rows selected.
```

Multi–Table INSERT

This feature of Oracle allows user to define multiple insert targets.

Syntax:-

```
INSERT ALL|FIRST
      [WHEN condition THEN] INTO target [VALUES]
      [WHEN condition THEN] INTO target [VALUES]
      ...
      [ELSE] INTO target [VALUES]
SELECT ...
FROM   source_query;
```


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Multiple records insertion in the same table

Example :

```
INSERT ALL
    INTO Employee_Details (salary, employee_id, name, age)
                VALUES (15000, 2001, 'Anurag Sidd', 25)
    INTO employee_details (salary, employee_id, name, age)
                VALUES (17000, 2002, 'Priyanka Madhur', 23)
SELECT 1 FROM DUAL;
```

Multiple records insertion in the same table

```
SQL> select * from employee_details;

no rows selected

SQL> insert ALL
  2          into employee_details (salary, employee_id, name, age)
  3               values (15000, 2001, 'Anurag Sidd', 25)
  4          into employee_details (salary, employee_id, name, age)
  5               values (17000, 2002, 'Priyanka Madhur', 23)
  6  select 1 from dual;

2 rows created.

SQL> commit;

Commit complete.

SQL> select * from employee_details;

    SALARY EMPLOYEE_ID NAME                      AGE
---------- ----------- -------------------- ----------
     15000        2001 Anurag Sidd                  25
     17000        2002 Priyanka Madhur              23
```

Records insertion in multiple tables

Example :

```
INSERT ALL
    INTO Employee_Details (salary, employee_id, name, age)
                VALUES (16000, 2003, 'Madhav Mhajan', 24)
    INTO Project_Details(project_id, project_name, client_name)
                VALUES (11, 'Project 1', 'Client 1')
    INTO Project_Allocation (project_id, employee_id)
                VALUES (11, 2003)
SELECT 1 FROM DUAL;
```

Records insertion in multiple tables

```
SQL> insert ALL
  2           into employee_details (salary, employee_id, name, age)
  3                values (16000, 2003, 'Madhav Mhajan', 24)
  4           into project_details(project_id, project_name, client_name)
  5                values (11, 'Project 1', 'Client 1')
  6           into project_allocation (project_id, employee_id)
  7                values (11, 2003)
  8  select 1 from dual;

3 rows created.

SQL> select * from Project_Allocation;

PROJECT_ID EMPLOYEE_ID
---------- -----------
        11        2003

SQL> select * from Project_details;

PROJECT_ID PROJECT_NAME         CLIENT_NAME
---------- -------------------- --------------------
        11 Project 1            Client 1

SQL> select * from Employee_details;

    SALARY EMPLOYEE_ID NAME                      AGE
---------- ----------- -------------------- ----------
     15000        2001 Anurag Sidd                  25
     17000        2002 Priyanka Madhur              23
     16000        2003 Madhav Mhajan                24
```

Copying Records to multiple tables

Example :

```
INSERT ALL
    INTO Employee_Details_23
    INTO Employee_Details_24
    INTO Employee_Details_25
SELECT * FROM Employee_Details;
```

All the data from the table Employee_Details will get copied to the three tables Employee_details_23, Employee_details_24 and Employee_details_25

Note: - Here all the four tables should have identical table structures.

Copying Records to multiple tables

```
SQL> select * from Employee_details;

    SALARY EMPLOYEE_ID NAME                           AGE
---------- ----------- -------------------- ----------
     16000        2003 Madhav Mhajan                24
     15000        2001 Anurag Sidd                  25
     17000        2002 Priyanka Madhur              23
     16000        2003 Madhav Mhajan                24

SQL> insert ALL
  2         into employee_details_23
  3         into employee_details_24
  4         into employee_details_25
  5  select * from employee_details;

12 rows created.
```

Conditional Multiple Inserts

Example :

```
INSERT FIRST
        WHEN age = 23
            THEN
            INTO Employee_Details_23 (salary, employee_id, name, age)
            VALUES (salary, employee_id, name, age)
    WHEN age = 24
            THEN
            INTO Employee_Details_24 (salary, employee_id, name, age)
            VALUES (salary, employee_id, name, age)
        WHEN age = 25
         THEN
             INTO Employee_Details_25 (salary, employee_id, name, age)
            VALUES (salary, employee_id, name, age)
SELECT * FROM Employee_Details;
```

Here the data from the table Employee_Details will be copied to the three tables Employee_details_23, Employee_details_24 and Employee_details_25 according to the condition

Note:- The columns in purple colour are from the source table Employee_Details

Conditional Multiple Inserts

```
SQL> select * from employee_details;

    SALARY EMPLOYEE_ID NAME                           AGE
---------- ----------- -------------------- ----------
     16000        2004 Leeya Jondur                 26
     15000        2001 Anurag Sidd                  25
     17000        2002 Priyanka Madhur              23
     16000        2003 Madhav Mhajan                24

SQL> INSERT FIRST
  2          WHEN age = 23
  3          THEN
  4              INTO employee_details_23 (salary, employee_id, name, age)
  5              VALUES (salary, employee_id, name, age)
  6          WHEN age = 24
  7          THEN
  8              INTO employee_details_24 (salary, employee_id, name, age)
  9              VALUES (salary, employee_id, name, age)
 10          WHEN age = 25
 11          THEN
 12              INTO employee_details_25 (salary, employee_id, name, age)
 13              VALUES (salary, employee_id, name, age)
 14  select * from employee_details;

3 rows created.
```