

Task-4: Independent and correlated Nested Queries

Aim:- To implement and understand nested queries in SQL, including independent and correlated subqueries, with practical examples in a university database scenario.

procedure:-

1. create required tables (egs students, Departments, courses, Enrollments).
2. Insert sample data.
3. write and execute independent nested queries.
4. write and execute correlated queries.
5. observe and analyse the differences in execution and results.

Syntax:-

SELECT Column_list

FROM table

WHERE column OPERATOR (SELECT column FROM table
WHERE condition);

EXAMPLE: Independent Nested Query.

SELECT ~~student name.~~

~~FROM Students~~

~~WHERE Dept ID = (~~

~~SELECT Dept ID~~

~~FROM Student~~

~~WHERE Student name = 'Alice'~~

~~);~~

Output:-

Alice

Charlie

... ..
... ..
... ..
... ..

Output

... ..
Alice
Charlie
... ..
... ..
... ..

Output

Alice
Bob
Charlie
David
O/P verified

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

Correlated Nested Query

- The inner query is executed repeatedly, once for each row of the outer query.
- Inner query depends on a value from the outer query.

Syntax:-

```
SELECT column list  
FROM table 1 t1  
WHERE EXISTS (  
  SELECT 1  
  FROM table 2 t2  
  WHERE condition involving t2 column)
```

Example:- Correlated Nested Query

find student who have enrolled in atleast course

```
SELECT, student name  
FROM students  
WHERE EXISTS  
  SELECT  
  FROM ENROLLMENTS  
  WHERE studentID = student ID 1;
```

EXPLANATION:-

for each student in the outer query the inner checks if that student exists in enrollments
if yes → the student returned

VEL TECH - CSE	
EX NO.	4
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	2
RECORD (5)	-
TOTAL (20)	12
SIGN WITH DATE	10/8/20

Result:- List of employees where salary is greater than the query salary