

Objective: At the end of this lab session you will learn about Nested Queries where Sub queries return only one value.

Nested Query Part 1

Section 1

Nested Query is a query within another SQL query and embedded within the WHERE/HAVING clause. A subquery is used to return data that will be used in the main query as a condition to further restrict the data to be retrieved.

Syntax:

```
SELECT column_name [,column_name]
FROM table1 [, table2 ]
WHERE [join condition AND] column_name OPERATOR (SELECT column_name [,
                                                    column_name ]
                                                    FROM table1 [, table2]
                                                    [WHERE]);
```

NOTE: So, if you writing the subquery you must use parenthesis, and also normally we place the subqueries on the right side of the comparison condition.

If Sub Query returns one value, we can use the following operators.

Operator	Meaning
=	Equal
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal
<>	Not equal

Section 2

Example Question:

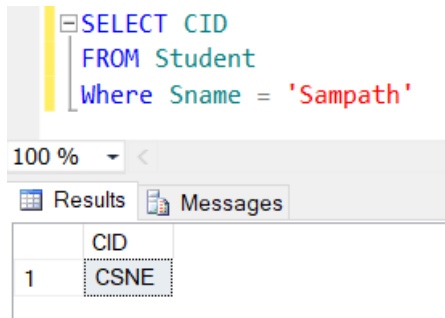
Display Student names Where Student Course ID is the same as student 'Sampath'.

Student Table

	SID	Sname	Address	dob	NIC	CID
1	CN18384756	Kamal	No122, Rose street, matale	1994-05-02	946785467v	CSNE
2	CN19465738	Sampath	No173, New kandy Road, kaduwella	1996-11-20	968764567v	CSNE
3	CS18223645	kalani	No08 , Gamini Road, Anuradhapura	1996-10-11	968564857v	CS
4	CS18234867	Damith	No125 , 1st street, kurunegala	1996-02-15	968763456v	CS
5	DS18234876	Pubudu	No678 , 3rd new lane, Maharahgama	1994-11-08	948763759v	DS
6	DS18375688	Kamani	No10 , new street, jaffna	1994-03-05	948763456v	DS
7	IS18758649	Jayni	No111, Perera street, kurunegala	1998-09-07	982359856v	ISE
8	IS19234876	Dulina	No124 , 2nd street, colombo10	1998-12-08	983485764v	ISE
9	IT18234568	Ann	No12, Kings street, colombo	1996-11-11	961234587v	IT
10	IT19275687	Rayan	No14, flower street, colombo12	1994-01-10	945673456v	IT
11	SE19238567	Malith	No08, st.thomas street, Kandy	1992-12-20	922356785v	SE
12	SE20284567	Pooja	No15, lakshmi Road, jaffna	1996-08-07	965678645v	SE

Display Student names Where Student Course ID is the same as student 'Sampath'.

So, first, we need to write the subquery to find the Course ID of Sampath

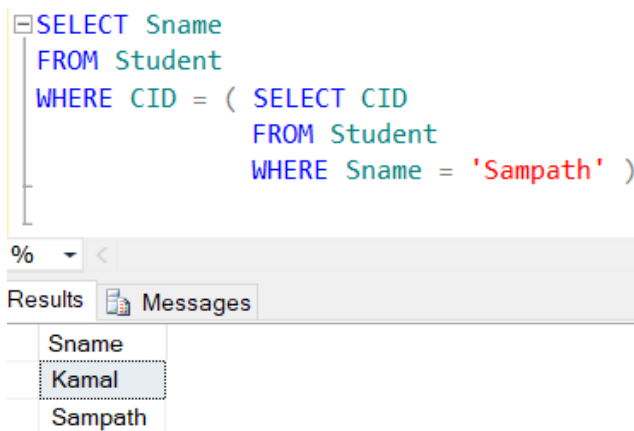


So, the course ID is CSNE So this query will be the subquery.

Then, we have to write the main Query and equal it to the subquery because we need to get the same Course ID as Sampath it means we need to find other students who do the course module 'CSNE'.

```
SELECT Sname
FROM Student
WHERE CID = (<Sub Query>)
```

So, the Final query is,



So, Kamal and Sampath are the students who do the CSNE course.

Exercise

1. What are the Module names of the modules, Where number of credits same as module code 'IE3051'?
2. What is the name of the course with the highest registration fee?
3. What are the other modules which have lesser number credits than the 'Fundamental of Data Mining' module?
4. What is the name of the course which has a higher number of credits?
5. What are the courses which offer modules for year 4 students, greater than the Software Engineering course?