

# **18CSC303J/ DBMS**

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## **Exp-9: SQL Sub-Queries**

**Aim:-** To study the various SQL Sub-Queries on the database.

### **Procedure:-**

#### **Syntax:-**

```
SELECT column_name  
FROM table_name  
WHERE column_name expression operator  
( SELECT COLUMN_NAME from TABLE_NAME WHERE ... );
```

### **Execution:-**

SQL\*Plus: Release 11.2.0.4.0 Production on Wed Mar 23 15:29:00 2022

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Enter user-name: RA1911003010367/RA1911003010367@f1-drjebakumar.co86hfjmfjkk.us-west-2.rds.amazonaws.com:1521/F1

ERROR:

ORA-12154: TNS:could not resolve the connect identifier specified

Enter user-name: **RA1911003010367/RA1911003010367@35.174.252.208:1521/orcl**

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

SQL> **CREATE TABLE student (S\_ID VARCHAR(2), S\_NAME VARCHAR(20), S\_ADDRESS VARCHAR(20), S\_PHONE VARCHAR(20), S\_AGE INT);**

Table created.

SQL> **CREATE TABLE course (C\_ID VARCHAR(2), C\_NAME VARCHAR(20));**

Table created.

SQL> **CREATE TABLE STUDENT\_COURSE(S\_ID VARCHAR(2), C\_ID VARCHAR(2));**

Table created.

SQL> **INSERT INTO STUDENT VALUES('S1', 'JISOO', 'SEOUL', '1234567890', 27);**

1 row created.

SQL> **INSERT INTO STUDENT VALUES('S2', 'JENNIE', 'BUSAN', '1098765432', 26);**

1 row created.

SQL> **INSERT INTO STUDENT VALUES('S3', 'ROSE', 'MELBOURNE', '9876543210', 25);**

1 row created.

```
SQL> INSERT INTO STUDENT VALUES('S4', 'LISA', 'BANGKOK', '2468013579', 25);
```

1 row created.

```
SQL> INSERT INTO COURSE VALUES('C1', 'CSE');
```

1 row created.

```
SQL> INSERT INTO COURSE VALUES('C2', 'MECHANICAL');
```

1 row created.

```
SQL> INSERT INTO COURSE VALUES('C3', 'AEROSPACE');
```

1 row created.

```
SQL> SELECT * FROM STUDENT;
```

S_S_NAME	S_ADDRESS	S_PHONE	S_AGE
S1 JISOO	SEOUL	1234567890	27
S2 JENNIE	BUSAN	1098765432	26
S3 ROSE	MELBOURNE	9876543210	25
S4 LISA	BANGKOK	2468013579	25

```
SQL> SELECT * FROM COURSE;
```

C_C_NAME
C1 CSE
C2 MECHANICAL
C3 AEROSPACE

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S1', 'C1');
```

1 row created.

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S1', 'C3');
```

1 row created.

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S2', 'C1');
```

1 row created.

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S3', 'C2');
```

1 row created.

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S4', 'C2');
```

1 row created.

```
SQL> INSERT INTO STUDENT_COURSE VALUES('S4', 'C3');
```

1 row created.

```
SQL> SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN(SELECT C_ID FROM COURSE WHERE  
C_NAME = 'CSE' OR C_NAME = 'AEROSPACE');
```

```
S_  
--  
S1  
S2  
S1  
S4
```

```
SQL> SELECT S_ID FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE WHERE  
C_ID IN (SELECT C_ID FROM COURSE WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
```

```
S_  
--  
S3
```

```
SQL> SELECT S_NAME FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE  
WHERE C_ID IN (SELECT C_ID FROM COURSE WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
```

```
S_NAME  
-----  
ROSE
```

```
SQL> SELECT * FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE WHERE  
C_ID IN (SELECT C_ID FROM COURSE WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
```

S_	S_NAME	S_ADDRESS	S_PHONE	S_AGE
S3	ROSE	MELBOURNE	9876543210	25

```
SQL> SELECT * FROM STUDENT WHERE S_ID IN (SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN  
(SELECT C_ID FROM COURSE WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
```

S_	S_NAME	S_ADDRESS	S_PHONE	S_AGE
S1	JISOO	SEOUL	1234567890	27
S2	JENNIE	BUSAN	1098765432	26
S4	LISA	BANGKOK	2468013579	25

```
SQL>
```

```
Select E:\SRM Sem-all\Sem-6\Database Management\Lab\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe

SQL*Plus: Release 11.2.0.4.0 Production on Wed Mar 23 15:29:00 2022

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Enter user-name: RA1911003010367/RA1911003010367@f1-drjebakumar.co86hfjmfjcx.us-west-2.rds.amazonaws.com:1521/F1
ERROR:
ORA-12154: TNS:could not resolve the connect identifier specified

Enter user-name: RA1911003010367/RA1911003010367@35.174.252.208:1521/orcl

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0 - Production

SQL> CREATE TABLE student (S_ID VARCHAR(2), S_NAME VARCHAR(20), S_ADDRESS VARCHAR(20), S_PHONE VARCHAR(20), S_AGE INT);
Table created.

SQL> CREATE TABLE course (C_ID VARCHAR(2), C_NAME VARCHAR(20));
Table created.

SQL> CREATE TABLE STUDENT_COURSE(S_ID VARCHAR(2), C_ID VARCHAR(2));
Table created.

SQL> INSERT INTO STUDENT VALUES('S1', 'JISOO', 'SEOUL', '1234567890', 27);
1 row created.

SQL> INSERT INTO STUDENT VALUES('S2', 'JENNIE', 'BUSAN', '1098765432', 26);
1 row created.

SQL> INSERT INTO STUDENT VALUES('S3', 'ROSE', 'MELBOURNE', '9876543210', 25);
1 row created.

SQL> INSERT INTO STUDENT VALUES('S4', 'LISA', 'BANGKOK', '2468013579', 25);
1 row created.

SQL> INSERT INTO COURSE VALUES('C1', 'CSE');
1 row created.

SQL> INSERT INTO COURSE VALUES('C2', 'MECHANICAL');
1 row created.
```

```
Select E:\SRM Sem-all\Sem-6\Database Management\Lab\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe

SQL> INSERT INTO COURSE VALUES('C3', 'AEROSPACE');
1 row created.

SQL> SELECT * FROM STUDENT;

S_ S_NAME          S_ADDRESS          S_PHONE          S_AGE
-----
S1 JISOO            SEOUL              1234567890       27
S2 JENNIE           BUSAN              1098765432       26
S3 ROSE            MELBOURNE         9876543210       25
S4 LISA            BANGKOK           2468013579       25

SQL> SELECT * FROM COURSE;

C_ C_NAME
-----
C1 CSE
C2 MECHANICAL
C3 AEROSPACE

SQL> INSERT INTO STUDENT_COURSE VALUES('S1', 'C1');
1 row created.

SQL> INSERT INTO STUDENT_COURSE VALUES('S1', 'C3');
1 row created.

SQL> INSERT INTO STUDENT_COURSE VALUES('S2', 'C1');
1 row created.

SQL> INSERT INTO STUDENT_COURSE VALUES('S3', 'C2');
1 row created.

SQL> INSERT INTO STUDENT_COURSE VALUES('S4', 'C2');
1 row created.

SQL> INSERT INTO STUDENT_COURSE VALUES('S4', 'C3');
1 row created.

SQL> SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN(SELECT C_ID FROM COURSE WHERE C_NAME = 'CSE' OR C_NAME = 'AEROSPACE')
;

S_
--
S1
```

```
Select E:\SRM Sem-all\Sem-6\Database Management\Lab\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN(SELECT C_ID FROM COURSE WHERE C_NAME = 'CSE' OR C_NAME = 'AEROSPACE')
;
S_
_
S1
S2
S1
S4

SQL> SELECT S_ID FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN (SELECT C_ID FROM COURSE
WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
S_
--
S3

SQL> SELECT S_NAME FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN (SELECT C_ID FROM COURSE
E WHERE C_NAME='CSE' OR C_NAME='AEROSPACE'));
S_NAME
-----
ROSE

SQL> SELECT * FROM STUDENT WHERE S_ID NOT IN (SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN (SELECT C_ID FROM COURSE WHERE C
RE C_NAME='CSE' OR C_NAME='AEROSPACE'));
S_ S_NAME          S_ADDRESS          S_PHONE          S_AGE
--
S3 ROSE            MELBOURNE          9876543210        25

SQL> SELECT * FROM STUDENT WHERE S_ID IN (SELECT S_ID FROM STUDENT_COURSE WHERE C_ID IN (SELECT C_ID FROM COURSE WHERE C
_NAME='CSE' OR C_NAME='AEROSPACE'));
S_ S_NAME          S_ADDRESS          S_PHONE          S_AGE
--
S1 JISOO            SEOUL              1234567890        27
S2 JENNIE          BUSAN              1098765432        26
S4 LISA            BANGKOK           2468013579        25

SQL>
```

**RESULT:-** Thus the SQL Sub-Queries have been executed successfully.