

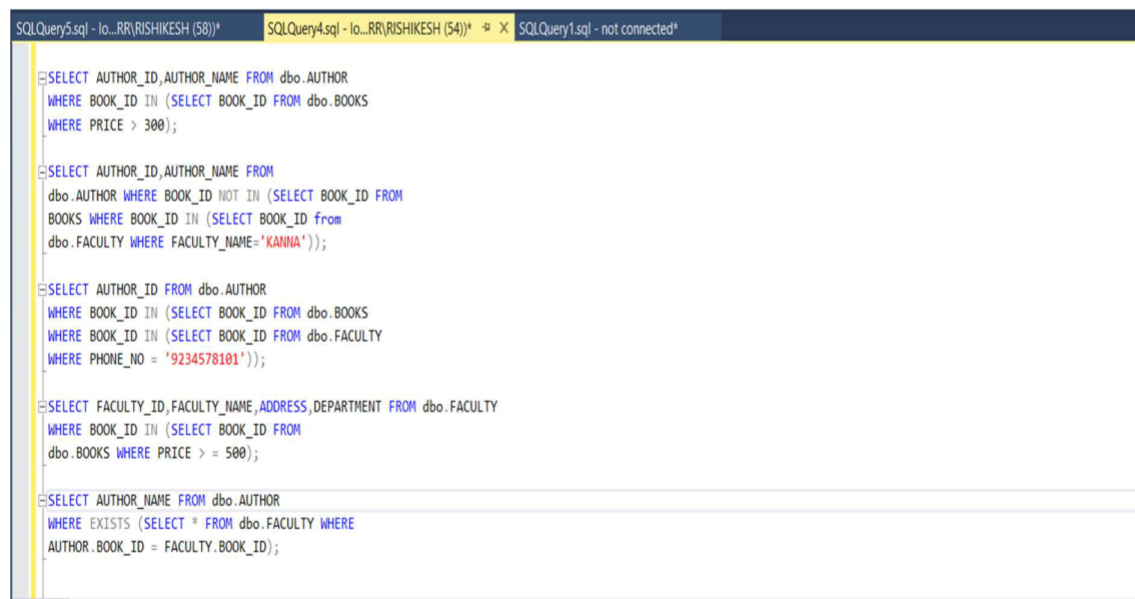
# Lab Assignment -4

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**Roll No. : 19BCS025**

## **Questions:**

**1. Write 5 Nested Queries for your respective database- the queries should not be very similar like just changing the where clause or just building all the queries on only one or two tables etc. The queries should make sense, it should cover most part of your database tables.**



```
SQLQuery5.sql - lo...RR\RISHIKESH (58))*  SQLQuery4.sql - lo...RR\RISHIKESH (54))*  SQLQuery1.sql - not connected*

SELECT AUTHOR_ID,AUTHOR_NAME FROM dbo.AUTHOR
WHERE BOOK_ID IN (SELECT BOOK_ID FROM dbo.BOOKS
WHERE PRICE > 300);

SELECT AUTHOR_ID,AUTHOR_NAME FROM
dbo.AUTHOR WHERE BOOK_ID NOT IN (SELECT BOOK_ID FROM
BOOKS WHERE BOOK_ID IN (SELECT BOOK_ID from
dbo.FACULTY WHERE FACULTY_NAME='KANNA'));

SELECT AUTHOR_ID FROM dbo.AUTHOR
WHERE BOOK_ID IN (SELECT BOOK_ID FROM dbo.BOOKS
WHERE BOOK_ID IN (SELECT BOOK_ID FROM dbo.FACULTY
WHERE PHONE_NO = '9234578101'));

SELECT FACULTY_ID,FACULTY_NAME,ADDRESS,DEPARTMENT FROM dbo.FACULTY
WHERE BOOK_ID IN (SELECT BOOK_ID FROM
dbo.BOOKS WHERE PRICE > = 500);

SELECT AUTHOR_NAME FROM dbo.AUTHOR
WHERE EXISTS (SELECT * FROM dbo.FACULTY WHERE
AUTHOR.BOOK_ID = FACULTY.BOOK_ID);
```

OUTPUT

Results Messages

AUTHOR_ID	AUTHOR_NAME
4101	G TIWANI
4102	HC VARMA
4103	ANITHA RAMALINGA
4110	ABRAHAM

AUTHOR_ID	AUTHOR_NAME
4102	HC VARMA
4103	ANITHA RAMALINGA
4104	RAY
4105	JACK FELENDER
4110	ABRAHAM

AUTHOR_ID
4101

FACULTY_ID	FACULTY_NAME	ADDRESS	DEPARTMENT
1112	HARSHIT	MANIPUR	PHYSICS
1113	KANNA	MANMEMKONDA	MATHS
1114	HARI	SOURATRA	ETHICS

AUTHOR_NAME
G TIWANI

Query executed successfully.localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 14 rows

2. Illustrate how we can use Concat and As operators in SQL (minimum 3 queries)

SQLQuery3.sql - lo...RR\RISHIKESH (52))\* X SQLQuery1.sql - lo...RR\RISHIKESH (76))\*

```
select concat (BOOK_NAME,' WRITTEN BY ', AUTHOR_NAME) as BOOK_DETAILS from dbo.BOOKS
SELECT AUTHOR_NAME, AUTHOR ADDRESS AS AUTHOR_DETAILS FROM DBO.AUTHOR
SELECT TOP 2 CONCAT(STUDENT_ID, ', ',STUDENT_NAME, ', ',MOBILE_NO, ', ',ADDRESS) AS STUDENT_INFO FROM dbo.STUDENT WHERE BRANCH = 'CSE';
```

OUTPUT

LUV 70 Results Messages

BOOK_DETAILS
CONCEPT OF PHYSICS WRITTEN BY HC VARMA
CINGAGE WRITTEN BY G TIWANI
LET US C WRITTEN BY YASHAVANT KANETKAR
MACHINE LEARNING WRITTEN BY TOM M MITCHELL
MACHINE LEARNING WRITTEN BY JACK FELENDER
VECTOR ALGEBRA WRITTEN BY ANITHA RAMALINGA
FEAR OF FLYINGS WRITTEN BY RAY
DATABASE SYSTEMS WRITTEN BY ABRAHAM

AUTHOR_NAME	AUTHOR_DETAILS
G TIWANI	NULL
HC VARMA	NULL
ANITHA RAMALINGA	RANCHI JHARKAND
RAY	CANADA
JACK FELENDER	NULL
ABRAHAM	YALE UNIVERSITY

STUDENT_INFO
9001, RISHIKESH, 9390360262, MAKTHAL
9003, SRAVAN, 9503946121, WARANGAL

Query executed successfully.localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 16 rows

### 3. Illustrate all the Comparison operator (2 queries for each operator)

```
SQLQuery4.sql - lo...RR\RISHIKESH (54)* X SQLQuery1.sql - not connected*

SELECT BOOK_ID, BOOK_NAME, AUTHOR_NAME FROM dbo.BOOKS WHERE NO_OF_BOOKS= 4;
SELECT TOP 3 BOOK_NAME FROM DBO.BOOKS WHERE SUBJECT_CODE = 'CS301';
SELECT FACULTY_ID FROM dbo.FACULTY WHERE FACULTY_NAME <> 'KANNIA';
SELECT TOP 2 STAFF_ID, STAFF_NAME FROM dbo.STAFF WHERE ADDRESS <> 'KOPPAL';
SELECT STAFF_NAME, STAFF_ID FROM dbo.STAFF WHERE SALARY > 1000;
SELECT BOOK_ID, CONCAT(BOOK_NAME, ', ', SUBJECT_CODE, ', ', LOCATION) AS DETAILS FROM dbo.BOOKS WHERE NO_OF_BOOKS > 2;
SELECT TOP 7 STAFF_NAME, STAFF_ID FROM dbo.STAFF WHERE SALARY < 100000;
SELECT BOOK_ID, CONCAT(BOOK_NAME, ', ', SUBJECT_CODE, ', ', LOCATION) AS DETAILS FROM dbo.BOOKS WHERE NO_OF_BOOKS < 7;
SELECT TOP 12 STAFF_NAME, STAFF_ID FROM dbo.STAFF WHERE SALARY >= 45000;
SELECT BOOK_ID, CONCAT(BOOK_NAME, ', ', SUBJECT_CODE, ', ', LOCATION) AS DETAILS FROM dbo.BOOKS WHERE NO_OF_BOOKS >= 7;
SELECT STAFF_ID, STAFF_NAME FROM dbo.STAFF WHERE SALARY <= 55000;
SELECT BOOK_ID, CONCAT(BOOK_NAME, ', ', SUBJECT_CODE, ', ', LOCATION) AS DETAILS FROM dbo.BOOKS WHERE NO_OF_BOOKS <= 10;
```

### OUTPUT

SQLQuery4.sql - lo...RR\RISHIKESH (54)\* X SQLQuery1.sql - not connected\*

100 %

Results Messages

BOOK_ID	BOOK_NAME	AUTHOR_NAME
7001	CONCEPT OF PHYSICS	HC VARMA
7003	LET US C	YASHAVANT KANETKAR

BOOK_NAME
MACHINE LEARNING
MACHINE LEARNING
DATABASE SYSTEMS

FACULTY_ID
1
1111
1112
1114

STAFF_ID	STAFF_NAME
1100	MALAY
1102	RAGHAVENDRA

STAFF_NAME	STAFF_ID
MALAY	1100
ASHWIN	1101
RAGHAVEN...	1102
AKASH	1103
KAMLESH	1105
AISHWARYA	1106
VAISHNAVI	1107
SOMANINA	1109
BHARATH	1110
KULKARNI	1112
HEMANTH	1114
AJAY	1115
KOUSHIK	1116
BHANU	1117
SRIKAR	1118
SRAVAN	1119
KALA	1120
SURESH	1122
RAJU	1135
ABRAHAM	1171

Query executed successfully. localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 2 rows

BOOK_ID		DETAILS
1	7001	CONCEPT OF PHYSICS, PH101, RACK-2
2	7002	CINGAGE, MA102, RACK-4,CLOUMN-1
3	7003	LET US C, CS202, RACK-1,CLOUMN-2
4	7005	MACHINE LEARNING, CS301, RACK-8...
5	7006	VECTOR ALGEBRA, MA204, RACK-7-C...
6	7008	DATABASE SYSTEMS, CS301, COLUM...

STAFF_NAME		STAFF_ID
1	ASHWIN	1101
2	RAGHAVENDRA	1102
3	AKASH	1103
4	KAMLESH	1105
5	AISHWARYA	1106
6	SOMANNA	1109
7	BHARATH	1110

BOOK_ID		DETAILS
1	7001	CONCEPT OF PHYSICS, PH101, RACK-2
2	7003	LET US C, CS202, RACK-1,CLOUMN-2
3	7004	MACHINE LEARNING, CS301, RACK-8...
4	7005	MACHINE LEARNING, CS301, RACK-8...
5	7007	FEAR OF FLYINGS, ,CLOUMN-5,RACK...
6	7008	DATABASE SYSTEMS, CS301, COLUM...

STAFF_NAME		STAFF_ID
1	MALAY	1100
2	ASHWIN	1101
3	RAGHAVEN...	1102
4	AKASH	1103
5	KAMLESH	1105
6	VAISHNAVI	1107
7	SOMANNA	1109
8	BHARATH	1110
9	KULKARNI	1112
10	HEMANTH	1114
11	BHANU	1117
12	SRAVAN	1119

Query executed successfully. localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 2 rows

BOOK_ID		DETAILS
1	7002	CINGAGE, MA102, RACK-4,CLOUMN-1
2	7006	VECTOR ALGEBRA, MA204, RACK-7,CLOUMN-1

STAFF_ID		STAFF_NAME
1	1105	KAMLESH
2	1106	AISHWARYA
3	1115	AJAY
4	1116	KOUSHIK
5	1118	SRIKAR
6	1122	SURESH
7	1124	SUMAN
8	1126	SIMARN

BOOK_ID		DETAILS
1	7001	CONCEPT OF PHYSICS, PH101, RACK-2
2	7002	CINGAGE, MA102, RACK-4,CLOUMN-1
3	7003	LET US C, CS202, RACK-1,CLOUMN-2
4	7004	MACHINE LEARNING, CS301, RACK-8...
5	7005	MACHINE LEARNING, CS301, RACK-8...
6	7007	FEAR OF FLYINGS, ,CLOUMN-5,RACK...
7	7008	DATABASE SYSTEMS, CS301, COLUM...

Query executed successfully. localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 2

#### 4. Illustrate Logical operators except ANY, ALL and Like (2 queries for each operator)

BOOK_ID		DETAILS
1	7001	CONCEPT OF PHYSICS, PH101, RACK-2
2	7002	CINGAGE, MA102, RACK-4,CLOUMN-1
3	7003	LET US C, CS202, RACK-1,CLOUMN-2
4	7004	MACHINE LEARNING, CS301, RACK-8...
5	7005	MACHINE LEARNING, CS301, RACK-8...
6	7007	FEAR OF FLYINGS, ,CLOUMN-5,RACK...
7	7008	DATABASE SYSTEMS, CS301, COLUM...

STAFF_ID		STAFF_NAME
1	1105	KAMLESH
2	1106	AISHWARYA
3	1115	AJAY
4	1116	KOUSHIK
5	1118	SRIKAR
6	1122	SURESH
7	1124	SUMAN
8	1126	SIMARN

BOOK_ID		DETAILS
1	7001	CONCEPT OF PHYSICS, PH101, RACK-2
2	7002	CINGAGE, MA102, RACK-4,CLOUMN-1
3	7003	LET US C, CS202, RACK-1,CLOUMN-2
4	7004	MACHINE LEARNING, CS301, RACK-8...
5	7005	MACHINE LEARNING, CS301, RACK-8...
6	7007	FEAR OF FLYINGS, ,CLOUMN-5,RACK...
7	7008	DATABASE SYSTEMS, CS301, COLUM...

STAFF_ID		STAFF_NAME
1	1105	KAMLESH
2	1106	AISHWARYA
3	1115	AJAY
4	1116	KOUSHIK
5	1118	SRIKAR
6	1122	SURESH
7	1124	SUMAN
8	1126	SIMARN

Query executed successfully. localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 2

```

SELECT BOOK_ID, BOOK_NAME, PRICE FROM dbo.BOOKS WHERE NO_OF_BOOKS >= 2 AND SUBJECT_CODE = 'CS301';
SELECT STUDENT_NAME FROM dbo.STUDENT WHERE STUDENT_ID >= 9001 AND BRANCH = 'CSE';
SELECT BOOK_ID, BOOK_NAME, PRICE FROM dbo.BOOKS WHERE NO_OF_BOOKS >= 4 OR SUBJECT_CODE = 'CS301';
SELECT STUDENT_NAME FROM dbo.STUDENT WHERE STUDENT_ID >= 9003 OR BRANCH = 'ECE';
SELECT STAFF_ID, STAFF_NAME FROM dbo.STAFF WHERE NOT SALARY >= 45000;
SELECT AUTHOR_ID, AUTHOR_NAME FROM dbo.AUTHOR WHERE NOT AUTHOR_ADDRESS = 'CANADA';
SELECT FACULTY_ID, FACULTY_NAME FROM dbo.FACULTY WHERE DEPARTMENT IN ('PHYSICS', 'MATHS');
SELECT BOOK_NAME FROM dbo.BOOKS WHERE SUBJECT_CODE IN ('CS301', 'MA102');
SELECT STAFF_ID, STAFF_NAME, STAFF_DESIGNATION FROM dbo.STAFF WHERE SALARY BETWEEN 50000 AND 100000;
SELECT STUDENT_ID, CONCAT(STUDENT_NAME, ', ', MOBILE_NO, ', ', ADDRESS) AS STUDENT_DETAILS FROM dbo.STUDENT WHERE STUDENT_ID BETWEEN 9002 AND 9010;

```

OUTPUT

ResultsMessages

	BOOK_ID	BOOK_NAME	PRICE
1	7004	MACHINE LEARNING	199
2	7005	MACHINE LEARNING	219
3	7008	DATABASE SYSTEMS	1090

	STUDENT_NAME
1	RISHIKESH
2	SRAVAN

	BOOK_ID	BOOK_NAME	PRICE
1	7001	CONCEPT OF PHYSICS	450
2	7002	CINGAGE	720
3	7003	LET US C	533
4	7004	MACHINE LEARNING	199
5	7005	MACHINE LEARNING	219
6	7006	VECTOR ALGEBRA	780
7	7008	DATABASE SYSTEMS	1090

	STUDENT_NAME
1	SANTOSH KUMAR
2	SRAVAN
3	KARAN
4	HARRSHIT

	STAFF_ID	STAFF_NAME
1	1106	AISHWARYA
2	1115	AJAY
3	1116	KOUSHIK
4	1118	SRIKAR
5	1124	SUMAN
6	1126	SIMARN

Query executed successfully.localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00

ResultsMessages

	AUTHOR_ID	AUTHOR_NAME
1	4103	ANITHA RAMALINGA
2	4110	ABRAHAM

	FACULTY_ID	FACULTY_NAME
1	1112	HARSHIT
2	1113	KANNA

	BOOK_NAME
1	CINGAGE
2	MACHINE LEARNING
3	MACHINE LEARNING
4	DATABASE SYSTEMS

	STAFF_ID	STAFF_NAME	STAFF_DESIGNATION
1	1101	ASHWIN	ACCOUNTANT
2	1102	RAGHAVENDRA	FEE_SECTION
3	1103	AKASH	TECHNICAL_DEPAR...
4	1109	SOMANNA	WEBDEVELOPMEN...
5	1110	BHARATH	STUDENT
6	1114	HEMANTH	ASSISTANT_LAB
7	1120	KALA	LAB_IL
8	1135	RAJU	TECHNICAL_DEPAR...

	STUDENT_ID	STUDENT_DETAILS
1	9002	SANTOSH KUMAR, 9390360262, NAKIRAKAL
2	9003	SRAVAN, 9503946121, VARANGAL
3	9004	KARAN, 9345678210, LADIAKH
4	9005	HARRSHIT, 9555455978, SINDANVOOR

Query executed successfully.localhost (15.0 RTM) LAPTOP-NDNABGRR\RISHIK... Library 00:00:00 42 rows