

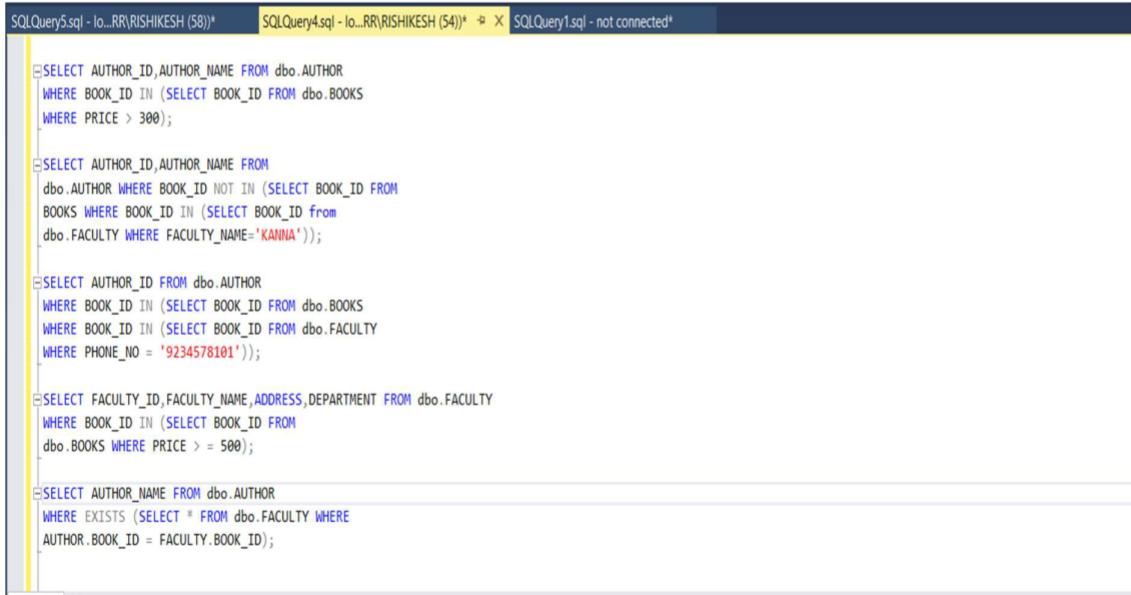
# Lab Assignment -4

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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.



The screenshot shows five separate windows in SQL Server Management Studio, each containing a different SQL query. The windows are titled as follows:

- SQLQuery5.sql - lo...RR\RISHIKESH (58)\*
- SQLQuery4.sql - lo...RR\RISHIKESH (54)\*
- SQLQuery1.sql - not connected\*
- SQLQuery2.sql - not connected\*
- SQLQuery3.sql - not connected\*

The queries themselves are:

```
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			
1	4101	GTIWANI	
2	4102	HC VARMA	
3	4103	ANITHA RAMALINGA	
4	4110	ABRAHAM	
AUTHOR_ID AUTHOR_NAME			
1	4102	HC VARMA	
2	4103	ANITHA RAMALINGA	
3	4104	RAY	
4	4105	JACK FELENDER	
5	4110	ABRAHAM	
AUTHOR_ID			
1	4101		
FACULTY_ID FACULTY_NAME ADDRESS DEPARTMENT			
1	1112	HARSHIT	MANIPUR PHYSICS
2	1113	KANNA	MANNEKONDA MATHS
3	1114	HARI	SOURATRA ETHICS
AUTHOR_NAME			
1	GTIWANI		

Query executed successfully. localhost (15.0 RTM) | LAPTOP-NDNABGRR\RISEH... | 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\RISEH (52)* ↗ X SQLQuery1.sql - lo...RR\RISEH (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

Results		Messages	
BOOK_DETAILS			
1	CONCEPT OF PHYSICS WRITTEN BY HC VARMA		
2	CINGAGE WRITTEN BY G TIWANI		
3	LET US C WRITTEN BY YASHAVANT KANETKAR		
4	MACHINE LEARNING WRITTEN BY TOM M MITCHELL		
5	MACHINE LEARNING WRITTEN BY JACK FELENDER		
6	VECTOR ALGEBRA WRITTEN BY ANITHA RAMALINGA		
7	FEAR OF FLYINGS WRITTEN BY RAY		
8	DATABASE SYSTEMS WRITTEN BY ABRAHAM		
AUTHOR_NAME AUTHOR_DETAILS			
1	GTIWANI	NULL	
2	HC VARMA	NULL	
3	ANITHA RAMALINGA	RANCHI JHARKHAND	
4	RAY	CANADA	
5	JACK FELENDER	NULL	
6	ABRAHAM	YALE UNIVERSITY	
STUDENT_INFO			
1	9001, RISHIKESH, 9390360262, MAKTHAL		
2	9003, SRAVAN, 9503946121, WARANGAL		

Query executed successfully. localhost (15.0 RTM) | LAPTOP-NDNABGRR\RISEH... | 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 <> 'KANINA';
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*
```

Results Messages

BOOK_ID	BOOK_NAME	AUTHOR_NAME
1	CONCEPT OF PHYSICS	HC VARMA
2	LET US C	YASHAVANT KANETKAR

BOOK_NAME
1 MACHINE LEARNING
2 MACHINE LEARNING
3 DATABASE SYSTEMS

FACULTY_ID
1
1111
3
1112
4
1114

STAFF_ID	STAFF_NAME
1	MALAY
2	RAGHAVENDRA

STAFF_NAME	STAFF_ID
1 MALAY	1100
2 ASHWIN	1101
3 RAGHAVEN...	1102
4 AKASH	1103
5 KAMLESH	1105
6 AISHWARYA	1106
7 VAISHNAVI	1107
8 SOMANNA	1109
9 BHARATH	1110
10 KULKARNI	1112
11 HEMANTH	1114
12 AJAY	1115
13 KOUSHIK	1116
14 BHANU	1117
15 SRIKAR	1118
16 SRAVAN	1119
17 KALA	1120
18 SURESH	1122
19 RAJU	1135
20 ABRAHAM	1171

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

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

100 %

Results Messages

BOOK_ID	DETAILS
1	7001 CONCEPT OF PHYSICS, PH101, RACK-2
2	7002 CINGAGE, MA102, RACK-4,COLUMN-1
3	7003 LET US C, CS202, RACK-1,COLUMN-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,COLUMN-2
3	7004 MACHINE LEARNING, CS301, RACK-8...
4	7005 MACHINE LEARNING, CS301, RACK-8...
5	7007 FEAR OF FLYINGS., COLUMN-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-NDNABGR|RISHIK... | Library | 00:00:00 | 2 rows

BOOK_ID	DETAILS
1	7002 CINGAGE, MA102, RACK-4,COLUMN-1
2	7006 VECTOR ALGEBRA, MA204, RACK-7,COLUMN-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,COLUMN-1
3	7003 LET US C, CS202, RACK-1,COLUMN-2
4	7004 MACHINE LEARNING, CS301, RACK-8...
5	7005 MACHINE LEARNING, CS301, RACK-8...
6	7007 FEAR OF FLYINGS., COLUMN-5,RACK...
7	7008 DATABASE SYSTEMS,CS301, COLUM...

Query executed successfully.

localhost (15.0 RTM) | LAPTOP-NDNABGR|RISHIK... | Library | 00:00:00 | 2

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

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

```

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

Results Messages

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

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	STUDENT_NAME
1	RISHIKESH
2	SRAVAN

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	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

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	STUDENT_NAME
1	SANTOSH KUMAR
2	SRAVAN
3	KARAN
4	HARRSHIT

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	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\RISEK... | Library | 00:00:00 | 4 rows

Results Messages

	AUTHOR_ID	AUTHOR_NAME
1	4103	ANITHA RAMALINGA
2	4110	ABRAHAM

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	FACULTY_ID	FACULTY_NAME
1	1112	HARSHT
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_JL
8	1135	RAJU	TECHNICAL_DEPAR...

---

	STUDENT_ID	STUDENT_DETAILS
1	9002	SANTOSH KUMAR, 9390360262, NAKIRAKAL
2	9003	SRAVAN, 9503949121, WARANGAL
3	9004	KARAN, 9345678210, LADAKH
4	9005	HARRSHIT, 9555455978, SINDANOR

Query executed successfully.

localhost (15.0 RTM) | LAPTOP-NDNABGRR\RISEK... | Library | 00:00:00 | 42 rows