

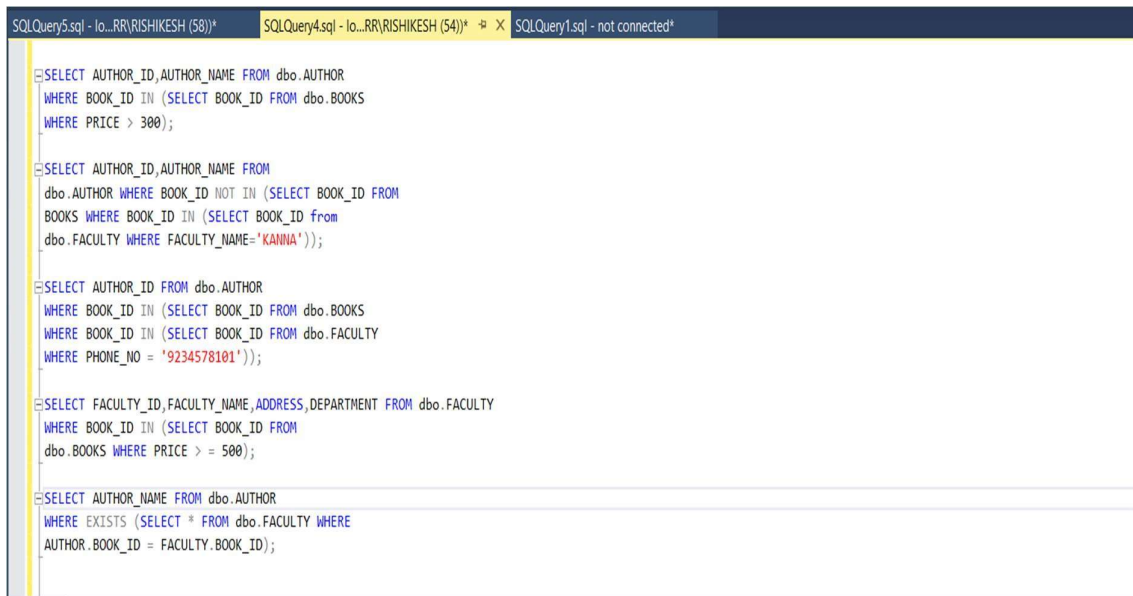
Lab Assignment -4

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Roll No. : 19bcs068

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))* X  SQLQuery1.sql - not connected*

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

2 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='KANNIA'));

3 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'));

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

5 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	G TIWANI	
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
2	1113	KANNA	MANIPUR
3	1114	HARI	SOURATRA
AUTHOR_NAME			
1	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...RISHIKESH (52))* X SQLQuery1.sql - lo...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

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	G TIWANI	NULL	
2	HC VARMA	NULL	
3	ANITHA RAMALINGA	RANCHI JHARKAND	
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\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 <> 'KANNA';
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
1 7001	CONCEPT OF PHYSICS	HC VARMA
2 7003	LET US C	YASHAVANT KANETKAR

BOOK_NAME
1 MACHINE LEARNING
2 MACHINE LEARNING
3 DATABASE SYSTEMS

FACULTY_ID
1 1
2 1111
3 1112
4 1114

STAFF_ID	STAFF_NAME
1 1100	MALAY
2 1102	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 SRAMAN	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,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)

SQLQuery4.sql - lo...RR\RISHIKESH (54)*		SQLQuery1.sql - not connected*
<pre> 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; </pre>		

OUTPUT

Results Messages		
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 4

Results Messages		
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, WARANGAL	
3 9004	KARAN, 9345678210, LADAKH	
4 9005	HARRSHIT, 9555455978, SINDANOOR	

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