CHALLENGE – 4

C#-FSD- DB

SUBMITTED BY

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Create table with the following fields

1. **tblcourse** – Course_id (PK, AI), Coursename, Courseshortname, Coursetype

2. **tblbatch** – Batch_id (PK, AI), Batchname

3. **tblstudent** - Student_id, Student_Name, Student_Email, Student_Gender, Student_DOB, Courseid, Batchid, Student_mark

1.Select all the details of Course

```sql
SELECT * FROM tblcourse;
```

	Course_id	Coursename	Courseshortname	Coursetype
1	100	Bachelor of computer application	BCA	UG
2	101	Bachelor of commerce .	Bcom	UG
3	102	Bachelor of Administration	BA	UG
4	103	Master of computer application	MCA	PG
5	104	Master of Bussiness Administration	MBA	PG

2.Select the name of UG courses

```sql
SELECT Coursename FROM tblcourse WHERE Coursetype='UG';
```

	Coursename
1	Bachelor of computer application
2	Bachelor of commerce
3	Bachelor of science

3. Select the name and short name of PG Courses

```sql
SELECT Coursename, Courseshortname FROM tblcourse WHERE Coursetype='PG';
```

	Coursename	Courseshortname
1	Master of computer application	MCA
2	Master of Bussiness Administration	MBA

4. Select the details of batches

```sql
SELECT * FROM tblbatch ;
```

	Batch_id	Batch_Name
1	2017	2017-2018
2	2018	2018-2019
3	2019	2019-2020
4	2020	2020-2021
5	2021	2021-2022

5. Select the details of students

```sql
SELECT * FROM tblstudent;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
3	1202	Vedha	F	2002-06-06	veda12@gmail.co...	101	2020	89
4	1203	Akshay	M	2002-04-16	akshay12@gmail....	100	2019	86
5	1204	Diya	F	2002-05-19	diyaniya@gmail.c...	103	2022	84
6	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.c...	100	2021	94

6. Insert details whose Course is MCA or BCA

```sql
INSERT INTO tblstudent VALUES(1206,'JITHIN','M','1999-06-01','jithin@gmail.com',103,2020,97);
INSERT INTO tblstudent VALUES(1207,'ARYA','F','2002-03-12','arya78@gmail.com',100,2022,90);
INSERT INTO tblstudent VALUES(1208,'NAVYA','F','2002-10-10','navyanavi@gmail.com',100,2022,80);

SELECT * FROM tblstudent WHERE Course_id in (100,103);
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1203	Akshay	M	2002-04-16	akshay12@gmail.com	100	2019	86
3	1204	Diya	F	2002-05-19	diyaniya@gmail.com	103	2022	84
4	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
5	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97
6	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
7	1208	NAVYA	F	2002-10-10	navyanavi@gmail.com	100	2022	80

```sql
select * from tblstudent;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
3	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
4	1203	Akshay	M	2002-04-16	akshay12@gmail.com	100	2019	86
5	1204	Diya	F	2002-05-19	diyaniya@gmail.com	103	2022	84
6	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
7	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97
8	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
9	1208	NAVYA	F	2002-10-10	navyanavi@gmail.com	100	2022	80

7. Select the count of male and female student (use if case statement)

```sql
SELECT COUNT(case when Student_Gender='M' then 1 end) AS Total_Male,
COUNT(case when Student_Gender='F' then 1 end)As Total_Female from
tblstudent;
```

	Total_Male	Total_Female
1	4	6

8.Select the details of Female Students

```sql
select * from tblstudent where Student_Gender='F';
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
2	1204	Diya	F	2002-05-19	diyaniya@gmail.com	103	2022	84
3	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
4	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
5	1208	NAVYA	F	2002-10-10	navyanavi@gmail.c...	100	2022	80
6	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

9. Select the details Males students whose course is MCA

```sql
select * from tblstudent where Course_id=(select Course_id from
tblcourse where Courseshortname='MCA') and Student_Gender='M';
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97

10. Select the details BA Students

```sql
select * from tblstudent where Course_id=(select Course_id from
tblcourse where Courseshortname='BA') ;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
2	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

11. Select the details of BA students whose batch is 2017-2018

```sql
select * from tblstudent where Course_id=(select Course_id from
tblcourse where Courseshortname='BA') and Batch_id=(select Batch_id
from tblbatch where Batch_Name='2017-2018');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

12. Select all the course short name and total number of students

```sql
SELECT c.Courseshortname AS Course_name ,COUNT(*) AS Count_students
FROM tblcourse c JOIN tblstudent s
ON s.Course_id = c.Course_id GROUP BY c.Courseshortname;
```

	Course_name	Count_students
1	BA	2
2	BCA	4
3	Bcom	1
4	MCA	3

13. Select the details UG Students

```sql
select * from tblstudent where Course_id IN(select Course_id from
tblcourse where Coursetype='UG');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
2	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
3	1203	Akshay	M	2002-04-16	akshay12@gmail....	100	2019	86
4	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.c...	100	2021	94
5	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
6	1208	NAVYA	F	2002-10-10	navyanavi@gmail....	100	2022	80
7	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

14. Select the details of PG Students

```sql
select * from tblstudent where Course_id IN(select Course_id from
tblcourse where Coursetype='PG');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1204	Diya	F	2002-05-19	diyaniya@gmail.com	103	2022	84
3	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97

15. Select the details of MCA Students whose batch is 2019-2021

```sql
select * from tblstudent where Course_id =(select Course_id from
tblcourse where Courseshortname='MCA') AND Batch_id=(select Batch_id
from tblbatch where Batch_Name='2019-2020');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97

16. Select the email and DOB of BCA Students

```sql
select Student_Email,Student_DOB from tblstudent where
Course_id=(select Course_id from tblcourse where
Courseshortname='BCA');
```

	Student_Email	Student_DOB
1	akshay12@gmail.com	2002-04-16
2	Diyaniya@gmail.com	2004-01-19
3	arya78@gmail.com	2002-03-12
4	navyanavi@gmail.com	2002-10-10

17. Select the students details with their course name and batch name

```sql
select s.Student_Name AS Student_Name ,c.Coursename AS
Course_Name,b.Batch_Name from tblcourse c JOIN tblstudent s ON
s.Course_id=c.Course_id JOIN tblbatch b ON b.Batch_id=s.Batch_id;
```

	Student_Name	Course_Name	Batch_Name
1	Adith	Master of computer application	2019-2020
2	Nakul	Bachelor of Administration	2019-2020
3	Vedha	Bachelor of commerce	2020-2021
4	Akshay	Bachelor of computer applica...	2019-2020
5	Ivaniya	Bachelor of computer applica...	2021-2022
6	JITHIN	Master of computer application	2020-2021
7	Hitha	Bachelor of Administration	2017-2018

18. Select Batch name and number of students

```sql
SELECT b.Batch_Name AS Batch_Name ,COUNT(*) AS Count_students FROM
tblbatch b JOIN tblstudent s ON s.Batch_id = b.Batch_id GROUP BY
b.Batch_Name;
```

	Batch_Name	Count_students
1	2017-2018	1
2	2019-2020	3
3	2020-2021	2
4	2021-2022	1

19. Select the students name, course name and students email

```sql
select s.Student_Name AS Student_Name ,c.Coursename AS
Course_Name,S.Student_Email from tblcourse c JOIN tblstudent s ON
s.Course_id=c.Course_id ;
```

	Student_Name	Course_Name	Student_Email
1	Adith	Master of computer application	adith@gmail.com
2	Nakul	Bachelor of Administration	nakulg@gmail.com
3	Vedha	Bachelor of commerce	veda12@gmail.co...
4	Akshay	Bachelor of computer applica...	akshay12@gmail....
5	Diya	Master of computer application	diyaniya@gmail.c...
6	Ivaniya	Bachelor of computer applica...	Diyaniya@gmail.c...
7	JITHIN	Master of computer application	jithin@gmail.com
8	ARYA	Bachelor of computer applica...	arya78@gmail.com

20. Select the Students details and their Batch name also

```
select s.* ,b.Batch_Name AS Batch_Name from tblbatch b JOIN
tblstudent s ON s.Batch_id=b.Batch_id ;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark	Batch_Name
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97	2019-2020
2	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77	2019-2020
3	1202	Vedha	F	2002-06-06	veda12@gmail.co...	101	2020	89	2020-2021
4	1203	Akshay	M	2002-04-16	akshay12@gmail....	100	2019	86	2019-2020
5	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.c...	100	2021	94	2021-2022
6	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97	2020-2021
7	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80	2017-2018

21. Select the count of male and female students in batch wise Sample output

```
SELECT b.Batch_Name,COUNT(case when Student_Gender='M' then 1 end)
AS Total_Male,
COUNT(case when Student_Gender='F' then 1 end)As Total_Female from
tblstudent s JOIN tblbatch b ON b.Batch_id=s.Batch_id GROUP BY
b.Batch_Name;
```

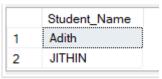|	Batch_Name	Total_Male	Total_Female
1	2017-2018	0	1
2	2019-2020	3	0
3	2020-2021	1	1
4	2021-2022	0	1

22. Select the name of the BCA Student who have Maximum Mark

```
SELECT Student_Name FROM tblstudent WHERE Student_Mark=(select
MAX(Student_Mark)from tblstudent where Course_id=(select Course_id
from tblcourse where Courseshortname='BCA'));
```

	Student_Name
1	Ivaniya

23. Select the Male MCA Student who have Minimum Mark

```
SELECT Student_Name FROM tblstudent WHERE Student_Mark=(select
MIN(Student_Mark)from tblstudent where Course_id=(select Course_id
from tblcourse where Courseshortname='MCA') and Student_Gender='M');
```

	Student_Name
1	Adith
2	JITHIN

24. Select the students details of UG Students who have greater than the average mark

```
SELECT * FROM tblstudent WHERE Student_Mark >(select
AVG(Student_Mark)from tblstudent where Course_id IN (select
Course_id from tblcourse where Coursetype='UG'))AND Course_id IN
(select Course_id from tblcourse where Coursetype='UG');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
2	1203	Akshay	M	2002-04-16	akshay12@gmail.com	100	2019	86
3	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
4	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90

25. Select the BCA student details who have Max Mark

```
SELECT * FROM tblstudent WHERE Student_Mark=(select
MAX(Student_Mark)from tblstudent where Course_id=(select Course_id
from tblcourse where Courseshortname='BCA'));
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94

26. Select Name and Email of the students who have second highest mark

```
SELECT Student_Name,Student_Email from tblstudent where
Student_Mark= (select MAX(Student_Mark) FROM tblstudent WHERE
Student_Mark < (SELECT MAX(Student_Mark) FROM tblstudent));
```

	Student_Name	Student_Email
1	Ivaniya	Diyaniya@gmail.com

27. Select the Dob and Current Age of All students

```
Select Student_Name,Student_Dob,datediff(YY,Student_DOB,getdate())
as Age
from tblstudent;
```

	Student_Name	Student_Dob	Age
1	Adith	2000-02-12	22
2	Nakul	2001-12-09	21
3	Vedha	2002-06-06	20
4	Akshay	2002-04-16	20
5	Diya	2002-05-19	20
6	Ivaniya	2004-01-19	18
7	JITHIN	1999-06-01	23
8	ARYA	2002-03-12	20

28. Select the Student name , Month name of birth and year of birth for all the students
Sample output

```sql
Select
Student_Name,DATENAME(MONTH,DATEADD(MONTH,MONTH(Student_DOB),-1 )
)AS Birth_Month,YEAR(Student_DOB) AS Year_Of_Birth FROM tblstudent;
```

	Student_Name	Birth_Month	Year_Of_Birth
1	Adith	February	2000
2	Nakul	December	2001
3	Vedha	June	2002
4	Akshay	April	2002
5	Diya	May	2002
6	Ivaniya	January	2004
7	JITHIN	June	1999
8	ARYA	March	2002

29. Select the Email and Student DOB of MCA Female Student

```sql
select Student_Email,Student_DOB from tblstudent where
Course_id=(select Course_id from tblcourse where
Courseshortname='MCA') AND Student_Gender='F';
```

	Student_Email	Student_DOB
1	diyaniya@gmail.com	2002-05-19

30. Select the name of all the students who have maximum mark in course wise

```sql
SELECT c.Courseshortname AS Course, MAX(s.Student_Mark) AS Max_Mark
FROM tblcourse c JOIN tblstudent s
ON s.Course_id = c.Course_id GROUP BY c.Courseshortname;
```

	Course	Max_Mark
1	BA	80
2	BCA	94
3	Bcom	89
4	MCA	97

31. Select the Details students whose year of birth less than 1995

```
Select * from tblstudent where YEAR(Student_DOB)<1995;
```

Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark

32.Select the Course short name, Batch name , total number of students in batch and Course wise Sample

33. Select details of BCA Students whose year of birth between 1992 and 1996

```
Select * from tblstudent where Course_id=(select Course_id from
tblcourse where Courseshortname='BCA') AND YEAR(Student_DOB)BETWEEN
1992 AND 1996;
```

Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark

34. Select the details of Male PG Students

```
SELECT * FROM tblstudent WHERE Student_Gender='M' AND Course_id
in(select Course_id from tblcourse where Coursetype='PG');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1200	Adith	M	2000-02-12	adith@gmail.com	103	2019	97
2	1206	JITHIN	M	1999-06-01	jithin@gmail.com	103	2020	97

35. Select the details of BCA Students who have greater than average mark

```
FROM tblstudent WHERE Student_Mark >(select AVG(Student_Mark)from
tblstudent where Course_id IN (select Course_id from tblcourse where
Courseshortname='BCA'))AND Course_id IN (select Course_id from
tblcourse where Courseshortname='BCA');
```

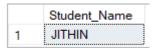|	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
2	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90

35. Select the details BA – 2019-2020 Batch Students

```
SELECT * FROM tblstudent WHERE Course_id=(select Course_id from
tblcourse where Courseshortname='BA')AND Batch_id=(SELECT Batch_id
FROM tblbatch WHERE Batch_Name='2019-2020');
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77

36. Select the name of student having maximum age?

```
SELECT Student_Name from tblstudent ORDER BY
datediff(YY,Student_DOB,getdate()) DESC OFFSET 0 ROWS FETCH FIRST 1
ROWS ONLY;
```

	Student_Name
1	JITHIN

37. Select the name and email of the BCA Students whose have Minimum age

```
SELECT Student_Name,Student_Email from tblstudent WHERE
Course_id=(select Course_id from tblcourse where
Courseshortname='BCA')
ORDER BY datediff(YY,Student_DOB,getdate()) ASC OFFSET 0 ROWS FETCH
FIRST 1 ROWS ONLY;
```

	Student_Name	Student_Email
1	Ivaniya	Diyaniya@gmail.com

38. Select the details of the students in descending order of their DOB

```
Select * from tblstudent ORDER BY Student_DOB DESC;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
2	1208	NAVYA	F	2002-10-10	navyanavi@gmail.com	100	2022	80
3	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
4	1204	Diya	F	2002-05-19	diyaniya@gmail.com	103	2022	84
5	1203	Akshay	M	2002-04-16	akshay12@gmail.com	100	2019	86
6	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
7	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
8	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

39. Select the details of the students have mark between 65 and 91

```
SELECT * FROM tblstudent WHERE Student_Mark BETWEEN 65 AND 91;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1201	Nakul	M	2001-12-09	nakulg@gmail.com	102	2019	77
2	1202	Vedha	F	2002-06-06	veda12@gmail.com	101	2020	89
3	1203	Akshay	M	2002-04-16	akshay12@gmail....	100	2019	86
4	1204	Diya	F	2002-05-19	diyaniya@gmail.c...	103	2022	84
5	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
6	1208	NAVYA	F	2002-10-10	navyanavi@gmail....	100	2022	80
7	1209	Hitha	F	2000-09-10	hitha@gmail.com	102	2017	80

40. Select the details of BCA Students in their mark wise

```
SELECT * FROM tblstudent WHERE Course_id=(SELECT Course_id from
tblcourse where Courseshortname='BCA') ORDER BY Student_Mark DESC;
```

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
2	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
3	1203	Akshay	M	2002-04-16	akshay12@gmail.c...	100	2019	86
4	1208	NAVYA	F	2002-10-10	navyanavi@gmail.c...	100	2022	80

	Student_id	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_id	Batch_id	Student_Mark
1	1205	Ivaniya	F	2004-01-19	Diyaniya@gmail.com	100	2021	94
2	1207	ARYA	F	2002-03-12	arya78@gmail.com	100	2022	90
3	1203	Akshay	M	2002-04-16	akshay12@gmail.c...	100	2019	86
4	1208	NAVYA	F	2002-10-10	navyanavi@gmail.c...	100	2022	80