CHALLENGE – 4
C#-FSD- DB

SUBMITTED BY

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Create table with the following fields

1. **tblcourse-CourseId** (P.K, A.I), Coursename, Courseshortname, Coursetype

2. **tblbatch-BatchId** (P.K, A.I),BatchName

3. **tblstudent** – Studentid (P.K,A.I),Student_Name,Student_Gender, Student_DOB, Student_Email,Course_Id, Batch_id,Student_mar

1. **Select all the details Courses.**

    Query: SELECT * FROM tblcourse;

	CourseId	Coursename	Courseshortname	Coursetype
1	1	Bachelor of Computer Application	BCA	UG
2	2	Bachelor of Business Administration	BBA	UG
3	3	Master of Computer Application	MCA	PG
4	4	Master of Business Management	MBA	PG
5	5	MA English	MA	PG
6	6	Computer Engineering	BTECH CSE	BTECH

2. **Select the name of UG Courses.**

    Query: SELECT Coursename from tblcourse

    WHERE Coursetype='UG';

	Coursename
1	Bachelor of Computer Application
2	Bachelor of Business Administration

3. **Select the name and short name of PG Courses.**

    Query: SELECT Coursename,Courseshortname

    From tblcourse

    where Coursetype='PG';

	Coursename	Courseshortname
1	Master of Computer Application	MCA
2	Master of Business Management	MBA
3	MA English	MA

4. Select the details of batches.

Query: select * from tblbatch;

	BatchId	BatchName
1	101	2020-2021
2	102	2021-2022
3	103	2019-2020
4	104	2017-2018
5	105	2018-2019

5. Select the details of students.

Query: select * from tblstudent;

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	3	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	1	105	90
3	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
4	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
5	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92
6	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	68
7	1007	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
8	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68

6. Insert 3 students details whose course is MCA or BCA.

Query:

insert into tblstudent values

('Kiran','Male','07-08-2000','kiran@gmail.com','3','101','78'),

('Meera','Female','07-08-2001','kiran@gmail.com','1','103','78'),

('Praveen','Male','07-08-2000','kiran@gmail.com','3','105','70');
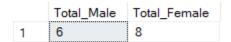
select * from tblstudent;

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	3	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	1	105	90
3	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
4	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
5	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92
6	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	68
7	1007	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
8	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
9	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78
10	1010	Meera	Female	2001-07-08	kiran@gmail.com	1	103	78
11	1011	Praveen	Male	2000-07-08	kiran@gmail.com	3	105	70

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

Query: SELECT COUNT(CASE WHEN Student_Gender='Male' then 1 end)

AS Total_Male,COUNT(CASE WHEN Student_Gender='Female' then 1 end)

AS Total_Female FROM tblstudent;

	Total_Male	Total_Female
1	6	8

8.Select the details of Female Students

Query : select * from tblstudent where Student_Gender='Female';

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	3	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	1	105	90
3	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
4	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	68
5	1007	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
6	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
7	1010	Meera	Female	2001-07-08	kiran@gmail.com	1	103	78
8	1013	Meera	Female	2001-07-08	kiran@gmail.com	1	103	78

9. Select the details Males students whose course is MCA

Query: select * from tblstudent where CourseId=(select CourseId from tblcourse where Courseshortname='MCA') and Student_Gender='Male';

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78
2	1011	Praveen	Male	2000-07-08	kiran@gmail.com	3	105	70
3	1012	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78
4	1014	Praveen	Male	2000-07-08	kiran@gmail.com	3	105	70

10. Select the details BA Students

Query: select * from tblstudent where CourseId=(select CourseId from tblcourse where Courseshortname='BA');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
2	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78

11. Select the details of BA students whose batch is 2017-2020

Query: select * from tblstudent where CourseId=(select CourseId from tblcourse

where Courseshortname='BA')and BatchId=(select BatchId from tblbatch where
BatchName='2017-2018');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90
2	1014	Praveen	Male	2000-07-08	kiran@gmail.com	6	105	70

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

Query: select C.Courseshortname as Coursename,COUNT(*) AS Student_count from

tblcourse C Join tblstudent s ON s.CourseId=C.CourseId Group By C.Courseshortname;

	Coursename	Student_count
1	BA	5
2	BCA	1
3	MA	1
4	MBA	1
5	MCA	6

13. Select the details UG Students

Query: Select * from tblstudent where CourseId In(Select CourseId From tblcourse
where Coursetype='UG');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90
3	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92
4	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
5	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
6	1014	Praveen	Male	2000-07-08	kiran@gmail.com	6	105	70

14. Select the details of PG Students

Query: Select * from tblstudent where CourseId IN(Select CourseId From tblcourse where Coursetype='PG');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
2	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
3	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	68
4	1007	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
5	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
6	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78
7	1011	Praveen	Male	2000-07-08	kiran@gmail.com	3	105	70
8	1012	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78

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

Query: select * from tblstudent where CourseId=(select CourseId from tblcourse

 where Courseshortname='MCA')and BatchId=(select BatchId from tblbatch where BatchName='2029-2020');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78
2	101	Click to select the whole column		2000-07-08	kiran@gmail.com	3	101	78

16. Select the email and DOB of BCA Students

Query: select Student_Email,Student_DOB from tblstudent where CourseId=(select CourseId from tblcourse where Courseshortname='BCA');

	Student_Email	Student_DOB
1	rahul@gmail.com	1998-08-02

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

Query: Select s.Student_Name As StudentName,c.Coursename As CourseName,b.BatchName from tblcourse c Join tblstudent s On s.CourseId=c.CourseId Join tblbatch b on b.BatchId=s.BatchId;

	StudentName	CourseName	BatchName
1	Reshmi	BA English	2017-2018
2	Revathy	BA English	2018-2019
3	Anu	Master of Computer Application	2021-2022
4	Rahul	Bachelor of Computer Application	2020-2021
5	Krishna	Master of Business Management	2019-2020
6	Krishna	Master of Computer Application	2019-2020
7	Krishna	Master of Computer Application	2019-2020
8	Kiran	Master of Computer Application	2020-2021
9	Meera	BA English	2019-2020
10	Praveen	BA English	2017-2018
11	Kiran	Master of Computer Application	2020-2021
12	Meera	BA English	2019-2020
13	Praveen	BA English	2018-2019

18. Select Batch name and number of students

Query: select b.BatchName as Batchname,Count(*) As Count_Students from

tblbatch b Join tblstudent s on s.BatchId =b.BatchId Group By b.BatchName;

	Batchname	Count_Students
1	2017-2018	2
2	2018-2019	2
3	2019-2020	5
4	2020-2021	3
5	2021-2022	1

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

Query: select s.Student_Name As StudentName,c.Coursename As
CourseName,s.Student_Email as StudentEmail from tblcourse c Join tblstudent s on
s.CourseId=c.CourseId;

	StudentName	CourseName	StudentEmail
1	Reshmi	BA English	resh@gmail.com
2	Revathy	BA English	revat@gmail.com
3	Anoop	MA English	anoop@gmail.com
4	Anu	Master of Computer Application	anu@gmail.com
5	Rahul	Bachelor of Computer Application	rahul@gmail.com
6	Krishna	Master of Business Management	krishna@gmail.com
7	Krishna	Master of Computer Application	krishna@gmail.com
8	Krishna	Master of Computer Application	krishna@gmail.com
9	Kiran	Master of Computer Application	kiran@gmail.com
10	Meera	BA English	kiran@gmail.com
11	Praveen	BA English	kiran@gmail.com
12	Kiran	Master of Computer Application	kiran@gmail.com
13	Meera	BA English	kiran@gmail.com
14	Praveen	BA English	kiran@gmail.com

20. Select the Students details and their Batch name also

Query: Select s.*,b.BatchName from tblbatch b Join tblstudent s On s.BatchId=b.BatchId;

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark	BatchName
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80	2017-2018
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90	2018-2019
3	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68	2021-2022
4	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92	2020-2021
5	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	68	2019-2020
6	1007	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68	2019-2020
7	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68	2019-2020
8	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78	2020-2021
9	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78	2019-2020
10	1011	Praveen	Male	2000-07-08	kiran@gmail.com	6	104	70	2017-2018
11	1012	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	78	2020-2021
12	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78	2019-2020
13	1014	Praveen	Male	2000-07-08	kiran@gmail.com	6	105	70	2018-2019

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

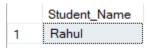**Query:** Select b.BatchName,Count(case when Student_Gender='Male' then 1 end)As Total_Male,

Count(case when Student_Gender='Female' then 1 end) As Total_Female from tblstudent s

Join tblbatch b on s.BatchId=b.BatchId Group By b.BatchName;

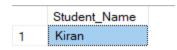|	BatchName	Total_Male	Total_Female
1	2017-2018	1	1
2	2018-2019	1	1
3	2019-2020	0	5
4	2020-2021	3	0
5	2021-2022	0	1

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

Query : select Student_Name from tblstudent where Student_mark=(Select Max(Student_mark) from tblstudent where CourseId=(select CourseId from tblcourse where Courseshortname='BCA'));

	Student_Name
1	Rahul

23. Select the Male MCA Student who have Minimum Mark

Query: select Student_Name from tblstudent where Student_mark=(select Min(Student_mark) from tblstudent where CourseId=(Select CourseId from tblcourse where Courseshortname='MCA') and Student_Gender='Male');

	Student_Name
1	Kiran

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

Query: Select * from tblstudent where Student_mark>(Select AVG(Student_mark) from tblstudent where CourseId In(select CourseId from tblcourse where Coursetype='UG'));

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90
3	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92

25. Select the BCA student details who have Max Mark

Query: Select * from tblstudent where Student_mark=(Select Max(Student_mark) from tblstudent where CourseId =(select CourseId from tblcourse where Courseshortname='BCA'));

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1005	Rahul	Male	1998-08-02	rahul@gmail.com	1	101	92

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

Query: 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	Revathy	revat@gmail.com

27. Select the Dob and Current Age of All students

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

	Student_Name	Student_Dob	Age
1	Reshmi	1994-06-04	28
2	Revathy	1997-01-12	25
3	Anoop	2002-03-03	20
4	Anu	2000-09-06	22
5	Rahul	1998-08-02	24
6	Krishna	2001-06-08	21
7	Krishna	2001-06-08	21
8	Krishna	2001-06-08	21
9	Kiran	2000-07-08	22
10	Meera	2001-07-08	21
11	Praveen	2000-07-08	22
12	Kiran	2000-07-08	22
13	Meera	2001-07-08	21
14	Praveen	2000-07-08	22

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

Query: 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	Reshmi	June	1994
2	Revathy	January	1997
3	Anoop	March	2002
4	Anu	September	2000
5	Rahul	August	1998
6	Krishna	June	2001
7	Krishna	June	2001
8	Krishna	June	2001
9	Kiran	July	2000
10	Meera	July	2001
11	Praveen	July	2000
12	Kiran	July	2000
13	Meera	July	2001
14	Praveen	July	2000

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

Query: select Student_Email,Student_DOB from tblstudent where CourseId=(select CourseId from tblcourse where Courseshortname='MCA') AND Student_Gender='Female';

	Student_Email	Student_DOB
1	anu@gmail.com	2000-09-06
2	krishna@gmail.com	2001-06-08
3	krishna@gmail.com	2001-06-08

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

Query : SELECT c.Courseshortname AS Course, MAX(s.Student_Mark) AS Max_Mark FROM tblcourse c JOIN tblstudent s ON s.CourseId = c.CourseId GROUP BY c.Courseshortname;

	Course	Max_Mark
1	BA	90
2	BCA	92
3	MA	75
4	MBA	63
5	MCA	68

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

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

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80

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

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

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1005	Rahul	Male	1994-08-02	rahul@gmail.com	1	101	92
2			Female	1994-04-02	krishna@gmail.com	1	103	68

34. Select the details of Male PG Students

Query: SELECT * FROM tblstudent WHERE Student_Gender='Male' AND CourseId in(select CourseId from tblcourse where Coursetype='PG');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
2	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	103	60
3	1012	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	62

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

Query: Select * FROM tblstudent WHERE Student_Mark >(select AVG(Student_Mark)from tblstudent where CourseId IN (select CourseId from tblcourse where Courseshortname='BCA'))AND CourseId IN (select CourseId from tblcourse where Courseshortname='BCA');
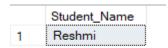
	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1005	Rahul	Male	1994-08-02	rahul@gmail.com	1	101	92

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

Query: SELECT * FROM tblstudent WHERE CourseId=(select CourseId from tblcourse where Courseshortname='BA')AND BatchId=(SELECT BatchId FROM tblbatch WHERE BatchName='2019-2020');

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
2	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78

36. Select the name of student having maximum age?

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

	Student_Name
1	Reshmi

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

Query: SELECT Student_Name,Student_Email from tblstudent WHERE CourseId=(select CourseId 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	Krishna	krishna@gmail.com

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

Query: Select * from tblstudent ORDER BY Student_DOB DESC;

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
2	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
3	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
4	1006	Krishna	Female	2001-06-08	krishna@gmail.com	4	103	63
5	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
6	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
7	1009	Kiran	Male	2000-07-08	kiran@gmail.com	3	103	60
8	1014	Praveen	Male	2000-07-08	kiran@gmail.com	6	105	70
9	1011	Praveen	Male	2000-07-08	kiran@gmail.com	6	104	70
10	1012	Kiran	Male	2000-07-08	kiran@gmail.com	3	101	62
11	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90
12	1005	Rahul	Male	1994-08-02	rahul@gmail.com	1	101	92
13	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80
14	1007	Krishna	Female	1994-04-02	krishna@gmail.com	1	103	68

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

Query : SELECT * FROM tblstudent WHERE Student_Mark BETWEEN 65 AND 91;

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1001	Reshmi	Female	1994-06-04	resh@gmail.com	6	104	80
2	1002	Revathy	Female	1997-01-12	revat@gmail.com	6	105	90
3	1003	Anoop	Male	2002-03-03	anoop@gmail.com	5	106	75
4	1004	Anu	Female	2000-09-06	anu@gmail.com	3	102	68
5	1007	Krishna	Female	1994-04-02	krishna@gmail.com	1	103	68
6	1008	Krishna	Female	2001-06-08	krishna@gmail.com	3	103	68
7	1010	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
8	1011	Praveen	Male	2000-07-08	kiran@gmail.com	6	104	70
9	1013	Meera	Female	2001-07-08	kiran@gmail.com	6	103	78
10	1014	Praveen	Male	2000-07-08	kiran@gmail.com	6	105	70

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

Query: SELECT * FROM tblstudent WHERE CourseId=(SELECT CourseId from tblcourse where Courseshortname='BCA') ORDER BY Student_Mark DESC

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	CourseId	BatchId	Student_mark
1	1005	Rahul	Male	1994-08-02	rahul@gmail.com	1	101	92
2	1007	Krishna	Female	1994-04-02	krishna@gmail.com	1	103	68