

Assignment-4

Create table with following fields

1. **tblcourse**-CourseId(P,K,A,I),CourseName,CourseShortName,CourseType

```
create table tblcourse (CourseId int NOT NULL IDENTITY(1,1),
    CourseName varchar(50) NOT NULL,
    CourseShortName varchar(50) NOT NULL,
    CourseType varchar(50) NOT NULL,
    PRIMARY KEY(CourseId));

insert into tblcourse values('Bsc Physics','PHY','UG');
insert into tblcourse values('Bachelor of Computer Applications','BCA','UG');
insert into tblcourse values('Master of Computer Applications','MCA','PG');
insert into tblcourse values('Master of Social Work','MSW','PG');
insert into tblcourse values('Bachelor of Social Work','BSW','UG');
insert into tblcourse values('bussiness Administration','MBA','PG');
```

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

```
create table tblbatch (BatchId int NOT NULL IDENTITY(100,1),
    BatchName varchar(50) NOT NULL,
    PRIMARY KEY(BatchId));

insert into tblbatch values('2019-2022');
insert into tblbatch values('2018-2021');
insert into tblbatch values('2019-2021');
insert into tblbatch values('2017-2020');
insert into tblbatch values('2018-2020');
```

3. **tblstudent**-

StudentId(P,K,A,I),Student_Name,Student_Gender,Student_DOB,Student_Email,CourseId,BatchId,Student_Mark

```
create table tblstudent(StudentId int NOT NULL IDENTITY(1554,1),
    Student_Name varchar(50) NOT NULL,
    Student_Gender varchar(50) NOT NULL,
    Student_DOB date NOT NULL,
    Student_Email varchar(50) NOT NULL,
    Course_Id int FOREIGN KEY REFERENCES tblcourse(CourseId),
    Batch_id int FOREIGN KEY REFERENCES tblbatch(BatchId),
    Student_Mark int NOT NULL,
    PRIMARY KEY(StudentId));

insert into tblstudent values('Aleena','Female','1999-03-10','aleena@gmail.com',1,100,94);
insert into tblstudent values('Danya','Female','1999-02-12','danya@gmail.com',2,101,84);
insert into tblstudent values('Anto','Male','1998-08-10','anto@gmail.com',3,102,92);
```

1.Select all the details of courses.

```
select * from tblcourse;
```

CourseId	Coursename	Courseshortname	Coursetype
1	Bsc Physics	PHY	UG
2	Bachelor of Computer Applications	BCA	UG
3	Master of Computer Applications	MCA	PG
4	Master of Social Work	MSW	PG
5	Bachelor of Social Work	BSW	UG
6	bussiness Administration	MBA	PG

2.Select the name of UG Courses.

```
select Coursename from tblcourse where Coursetype='UG';
```

Coursename
Bsc Physics
Bachelor of Computer Applications
Bachelor of Social Work

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

```
select Coursename, Courseshortname from tblcourse where Coursetype='PG';
```

Coursename	Courseshortname
Master of Computer Applications	MCA
Master of Social Work	MSW
bussiness Administration	MBA

4.Select all the details of batches.

```
select * from tblbatch;
```

	BatchId	BatchName
1	100	2019-2022
2	101	2018-2021
3	102	2019-2021
4	103	2017-2020
5	104	2018-2020

5.Select all the details of students.

```
select * from tblstudent;
```

StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	84
1556	Anto	Male	1998-08-10	anto@gmail.com	3	102	92

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

```
insert into tblstudent values('Archana','Female','1999-02-12','archana@gmail.com',2,101,88) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
```

```
insert into tblstudent values('Annie','Female','1999-06-10','annie@gmail.com',3,100,91)select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
```

```
insert into tblstudent values('Ashish','Male','1997-06-19','ashish@gmail.com',2,101,81)select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
```

```
select * from tblstudent;
```

StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	84
1556	Anto	Male	1998-08-10	anto@gmail.com	3	102	92
1557	Archana	Female	1999-02-12	archana@gmail.com	2	101	88
1558	Annie	Female	1999-06-10	annie@gmail.com	3	100	91
1559	Ashish	Male	1997-06-19	ashish@gmail.com	2	101	81

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

Sample output:

Total_Male	Total_Female
10	10

```
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
2	4

8.Select the details of Female Students

```
select * from tblstudent where Student_Gender='Female';
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
2	1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	45
3	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95
4	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66

9. Select the details Males students whose course is MCA

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

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98
2	1558	Bibin Jose	Male	1995-08-20	Bibin@gmail.com	3	103	98

10. Select the details BAA Students

```
select * from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='BAA');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66

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

```
select * from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='BAA')
and Batch_id=(select BatchId from tblbatch where BatchName='2017-2020');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66

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

Sample Output:

Course name	Total Students
MCA	4
BCA	10
BAA	6

```
select c.Courseshortname as Course_Name, COUNT(*) AS Total_Students from
tblcourse c JOIN tblstudent s ON s.Course_Id=c.CourseId GROUP BY c.Courseshortname;
```

	Course_Name	Total_Students
1	BAA	1
2	BCA	2
3	MCA	2
4	PHY	2

13. Select the details UG Students

```
select * from tblstudent where Course_Id IN (select CourseId from tblcourse where Coursetype='UG');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
2	1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	45
3	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
4	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95
5	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66

14. Select the details of PG Students

```
select * from tblstudent where Course_Id IN (select CourseId from tblcourse where Coursetype='PG');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98
2	1558	Bibin Jose	Male	1995-08-20	Bibin@gmail.com	3	103	98

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

```
select * from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA')
and Batch_id=(select BatchId from tblbatch where BatchName='2019-2021');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98

16. Select the email and DOB of BCA Students

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

	Student_Email	Student_DOB
1	danya@gmail.com	1999-02-12
2	alwin@gmail.com	1995-01-20

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

```
select s.Student_Name AS Student_Name ,c.Coursename AS Course_Name,b.BatchName from tblcourse
c JOIN tblstudent s ON s.Course_Id=c.CourseId JOIN tblbatch b ON b.BatchId=s.Batch_id;
```

	Student_Name	Course_Name	BatchName
1	Aleena	Bsc Physics	2019-2022
2	Danya	Bachelor of Computer Applications	2018-2021
3	Albin Baby	Master of Computer Applications	2019-2021
4	Alwin Jose	Bachelor of Computer Applications	2019-2021
5	Bibin Jose	Master of Computer Applications	2017-2020
6	Seena John	Bsc Physics	2018-2021
7	Josna John	Bachelor of Applied Arts	2017-2020

18. Select Batch name and number of students

```
select b.BatchName AS Batch_Name, COUNT(*) AS Total_Students from
tblbatch b JOIN tblstudent s ON s.Batch_id=b.BatchId GROUP BY b.BatchName;
```

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

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

```
select s.Student_Name AS Student_Name ,c.Coursename AS Course_Name,s.Student_Email AS Student_Email from tblcourse
c JOIN tblstudent s ON s.Course_Id=c.CourseId;
```

	Student_Name	Course_Name	Student_Email
1	Aleena	Bsc Physics	aleena@gmail.com
2	Danya	Bachelor of Computer Applications	danya@gmail.com
3	Albin Baby	Master of Computer Applications	albin@gmail.com
4	Alwin Jose	Bachelor of Computer Applications	alwin@gmail.com
5	Bibin Jose	Master of Computer Applications	Bibin@gmail.com
6	Seena John	Bsc Physics	seena@gmail.com
7	Josna John	Bachelor of Applied Arts	josna@gmail.com

20. Select the Students details and their Batch name also.

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

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark	Batch_Name
1	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94	2019-2022
2	1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	45	2018-2021
3	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98	2019-2021
4	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98	2019-2021
5	1558	Bibin Jose	Male	1995-08-20	Bibin@gmail.com	3	103	98	2017-2020
6	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95	2018-2021
7	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66	2017-2020

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

Sample Output:

Batch Name	Total_Male	Total_Female
2017-2020	3	3
2018-2021	2	3
2019-2022	2	3

```
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 b.BatchId=s.Batch_id GROUP BY BatchName;
```

	BatchName	Total_Male	Total_Female
1	2017-2020	1	1
2	2018-2021	0	2
3	2019-2021	2	0
4	2019-2022	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 CourseId from tblcourse where Courseshortname='BCA'));
```

	Student_Name
1	Amal G

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 CourseId from tblcourse where Courseshortname='MCA')
and Student_Gender='Male');
```

	Student_Name
1	Akhil Kuryan

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 CourseId from tblcourse where Coursetype='UG' )) and Course_Id IN (select CourseId from tblcourse where Coursetype='UG');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
2	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
3	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95

25. Select the BCA student details who have Max Mark

```
select * from tblstudent where Student_Mark > (select AVG(Student_Mark) from tblstudent where Course_Id IN (select CourseId from tblcourse where Coursetype='UG' )) and Course_Id IN (select CourseId from tblcourse where Coursetype='UG');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
2	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
3	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95
4	1562	Amal G	Male	1995-06-19	amal@gmail.com	2	103	99

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	Albin Baby	albin@gmail.com
2	Alwin Jose	alwin@gmail.com
3	Bibin Jose	Bibin@gmail.com

27. Select the Dob and Current Age of All students

Sample Output:

Student name	Student DOB	Current age
Abin Baby	20/01/1995	25
Bibin Jose	20/08/1995	25
Seena John	18/02/1995	25

```
select Student_Name,Student_Dob ,datediff(YY,Student_Dob,getdate()) AS Age from tblstudent;
```

	Student_Name	Student_Dob	Age
1	Aleena	1999-03-10	23
2	Danya	1999-02-12	23
3	Albin Baby	1995-01-20	27
4	Alwin Jose	1995-01-20	27
5	Bibin Jose	1995-08-20	27
6	Seena John	1995-02-18	27
7	Josna John	1995-09-18	27
8	Akhil Kuryan	1994-09-18	28
9	Amal G	1995-06-19	27

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

Sample Output:

Student name	Month name	Year
Abin Baby	January	1995
Bibin Jose	September	1195
Seena John	February	1995

```
select Student_Name ,DATENAME(MONTH,DATEADD(MONTH,MONTH(Student_Dob),-1))AS Month_Name ,YEAR(Student_Dob) AS Year from tblstudent;
```

	Student_Name	Month_Name	Year
1	Aleena	March	1999
2	Danya	February	1999
3	Albin Baby	January	1995
4	Alwin Jose	January	1995
5	Bibin Jose	August	1995
6	Seena John	February	1995
7	Josna John	September	1995
8	Akhil Kuryan	September	1994
9	Amal G	June	1995
10	Irine Jose	April	1996

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

```
select Student_Email,Student_Dob from tblstudent where Course_Id=(select courseId from tblcourse where Courseshortname='MCA')
and Student_Gender='Female';
```

	Student_Email	Student_Dob
1	irine@gmail.com	1996-04-20

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

Sample Output:

Course Name	Student name	Maximum Mark
MCA	Alwin James	98
BCA	Abin Baby	98
BCA	Bibin Jose	98

```
select c.Courseshortname AS Course_Name,s.Student_Name AS Student_Name,MAX(s.Student_Mark) AS Maximum_Mark from
tblcourse c join tblstudent s ON s.Course_Id=c.courseId GROUP BY c.Courseshortname,Student_Name;
```

	Course_Name	Student_Name	Maximum_Mark
1	MCA	Akhil Kuryan	50
2	MCA	Albin Baby	98
3	PHY	Aleena	94
4	BCA	Alwin Jose	98
5	BCA	Amal G	99
6	MCA	Bibin Jose	98
7	BCA	Danya	45
8	MCA	Irine Jose	77
9	BAA	Josna John	66
10	PHY	Seena John	95

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

```
select * from tblstudent where YEAR(Student_Dob)<1995;
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1561	Akhil Kuryan	Male	1994-09-18	akhil@gmail.com	3	103	50

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

Sample Output:

Course name	Batch name	No of students
MCA	2018-2020	2
MCA	2019-2021	2
BCA	2017-2020	4
BCA	2018-2021	3

```
select c.Courseshortname AS Course_Name ,b.BatchName AS Batch_Name, COUNT(*) AS Total_Students
from tblbatch b JOIN tblstudent s ON s.Batch_id=b.BatchId JOIN tblcourse c ON s.Course_Id=c.CourseId
GROUP BY b.BatchName,c.Courseshortname;
```

	Course_Name	Batch_Name	Total_Students
1	BA	2019-2020	1
2	BAA	2017-2020	1
3	BCA	2017-2020	1
4	BCA	2018-2021	1
5	BCA	2019-2021	1
6	MCA	2017-2020	2
7	MCA	2019-2021	2
8	PHY	2018-2021	1
9	PHY	2019-2022	1

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

```
select * from tblstudent where Course_Id=(select courseId from tblcourse where Courseshortname='BCA') and
YEAR(Student_Dob) BETWEEN 1992 and 1996;
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
2	1562	Amal G	Male	1995-06-19	amal@gmail.com	2	103	99

34. Select the details of Male PG Students

```
select * from tblstudent where Student_Gender='Male' and Course_Id in (select courseId from tblcourse where Coursetype='PG');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98
2	1558	Bibin Jose	Male	1995-08-20	Bibin@gmail.com	3	103	98
3	1561	Akhil Kuryan	Male	1994-09-18	akhil@gmail.com	3	103	50

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

```
select * from tblstudent where Student_Mark > (select AVG(Student_Mark) from tblstudent where Course_Id in
(select courseId from tblcourse where Courseshortname='BCA')) and Course_Id in
(select courseId from tblcourse where Courseshortname='BCA');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
2	1562	Amal G	Male	1995-06-19	amal@gmail.com	2	103	99

35. Select the details BAA – 2019-2022 Batch Students

```
select * from tblstudent where Course_Id in (select courseId from tblcourse where Courseshortname='BAA')
AND Batch_id = (select Batch_Id from tblbatch where BatchName='2019-2022');
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66

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	Akhil Kuryan

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

```
select Student_Name,Student_Email from tblstudent where Course_Id in
(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	Danya	danya@gmail.com

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

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

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1564	Shubangi S	Female	1999-04-20	irine@gmail.com	6	105	70
2	1554	Aleena	Female	1999-03-10	aleena@gmail.com	1	100	94
3	1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	45
4	1563	Irine Jose	Female	1996-04-20	irine@gmail.com	3	102	77
5	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66
6	1558	Bibin Jose	Male	1995-08-20	Bibin@gmail.com	3	103	98
7	1562	Amal G	Male	1995-06-19	amal@gmail.com	2	103	99
8	1559	Seena John	Female	1995-02-18	seena@gmail.com	1	101	95
9	1556	Albin Baby	Male	1995-01-20	albin@gmail.com	3	102	98
10	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
11	1561	Akhil Kuryan	Male	1994-09-18	akhil@gmail.com	3	103	50

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

```
select * from tblstudent where Student_Mark BETWEEN 65 and 91;
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1560	Josna John	Female	1995-09-18	josna@gmail.com	5	103	66
2	1563	Irine Jose	Female	1996-04-20	irine@gmail.com	3	102	77
3	1564	Shubangi S	Female	1999-04-20	irine@gmail.com	6	105	70

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

```
select * from tblstudent where Course_Id=(select courseId from tblcourse where Courseshortname='BCA')  
ORDER BY Student_Mark DESC;
```

	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1562	Amal G	Male	1995-06-19	amal@gmail.com	2	103	99
2	1557	Alwin Jose	Male	1995-01-20	alwin@gmail.com	2	102	98
3	1555	Danya	Female	1999-02-12	danya@gmail.com	2	101	45