Assignment-4

Create table with the following fields

1. tblcourse-Courseld (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('Bachelor ofApplied Arts','BAA','UG');
insert into tblcourse values('Bachelor of Commerce','B.Com','UG');
insert into tblcourse values('Bachelor of Arts','BA','UG');
insert into tblcourse values('Bachelor of Computer Application','BCA','UG');
insert into tblcourse values('Master of Science','MSC','PG');
insert into tblcourse values('Master of Business Administration','MBA','PG');
insert into tblcourse values('Master of Computer Application','MCA','PG');
```

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

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

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

3. tblstudent -

```
Studentid \ (P.K,A.I), Student\_Name, Student\_Gender, Student\_DOB, Student\_Email, Course\_Id, \\
```

```
Batch_id,Student_mark
```

```
Jcreate 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));

Dinsert into tblstudent values('Kat','Female','2001-01-30','kat003@gmail.com',1,103,94);
insert into tblstudent values('Avantika','Female','1992-02-12','avantika665@gmail.com',2,101,84);
insert into tblstudent values('Sam','Male','1993-08-10','sam008@gmail.com',3,102,92);
```

1. Select all the details courses

select * from tblcourse;

	Courseld	Coursename	Courseshortname	Coursetype
1	1	Bachelor ofApplied Arts	BAA	UG
2	2	Bachelor of Commerce	B.Com	UG
3	3	Bachelor of Arts	BA	UG
4	4	Bachelor of Computer Application	BCA	UG
5	5	Master of Science	MSC	PG
6	6	Master of Business Administration	MBA	PG
7	7	Master of Computer Application	MCA	PG

2. Select the name of UG Courses

select Coursename from tblcourse where Coursetype='UG'; Coursename Bachelor ofApplied Arts Bachelor of Commerce Bachelor of Arts Bachelor of Computer...

3. Select the name and short name of PG Courses

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

	Coursename	Courseshortname
1	Master of Science	MSC
2	Master of Business Administration	MBA
3	Master of Computer Application	MCA

4. Select the details of batches

select * from tblbatch;

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

5. Select the details of students

select * from tblstudent;

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	100	94
2	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
3	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92

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

```
☐ insert into tblstudent values('Arushi', 'Female', '2001-02-10', 'arushi005@gmail.com', 4,101,88) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
☐ insert into tblstudent values('Deyong', 'Female', '1996-11-12', 'deyong@gmail.com', 7,100,91) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
☐ insert into tblstudent values('Jacob', 'Male', '1997-12-10', 'jacob048@gmail.com', 7,101,92) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
☐ insert into tblstudent values('Bella', 'Female', '1994-01-01', 'bella666@gmail.com', 4,103,90) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
☐ insert into tblstudent values('Edward', 'Male', '2000-05-18', 'edward987@gmail.com', 4,101,98) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
☐ insert into tblstudent values('Edward', 'Male', '2000-05-18', 'edward987@gmail.com', 4,101,98) select Course_Id from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='MCA' or Courseshortname='BCA');
```

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94
2	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
3	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92
1	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88
5	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91
3	1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92
7	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90
8	1570	Edward	Male	2000-05-18	edward987@gmail.com	4	101	98

7. Select the count of male and Female Students (use if case Statement)

Sample output

Total_Male	Total_Female
10	10

```
10 10
```

```
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;
```

	10000	
	Total_Male	Total_Female
1	3	5

8. Select the details of Female Students

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

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94
2	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
3	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88
4	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91
5	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90

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');

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92

10. Select the details BAA Students

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

	Studentld	Student Name	Student Gender	Student DOB	Student Email	Course Id	Batch id	Student Mark
1	1554	Kat	Female		kat003@gmail.com	1	103	94

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');

	Studentld		Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94

12. Select all the course short name and total number of students 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	B.Com	1
2	BA	1
3	BAA	1
4	BCA	3
5	MCA	2

13. Select the details UG Students

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

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94
2	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
3	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92
4	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88
5	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90
6	1570	Edward	Male	2000-05-18	edward987@gmail.com	4	101	98

14. Select the details of PG Students

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

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91
2	1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92

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');

Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92

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	arushi005@gmail.com	2001-02-10
2	bella666@gmail.com	1994-01-01
3	edward987@gmail.c	2000-05-18

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	Kat	Bachelor ofApplied Arts	2017-2020
2	Avantika	Bachelor of Commerce	2019-2022
3	Sam	Bachelor of Arts	2019-2021
4	Arushi	Bachelor of Compute	2019-2022
5	Deyong	Master of Computer A	2018-2022
6	Jacob	Master of Computer A	2019-2021
7	Bella	Bachelor of Compute	2017-2020
8	Edward	Bachelor of Compute	2019-2022

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	2018-2022	1
3	2019-2021	2
4	2019-2022	3

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	Kat	Bachelor of Applied Arts	kat003@gmail.com
2	Avantika	Bachelor of Commerce	avantika665@gmail.com
3	Sam	Bachelor of Arts	sam008@gmail.com
4	Arushi	Bachelor of Compute	arushi005@gmail.com
5	Deyong	Master of Computer A	deyong@gmail.com
6	Jacob	Master of Computer A	jacob048@gmail.com
7	Bella	Bachelor of Compute	bella666@gmail.com
8	Edward	Bachelor of Compute	edward987@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;

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark	Batch_Name
1	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94	2017-2020
2	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84	2019-2022
3	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92	2019-2021
4	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88	2019-2022
5	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91	2018-2022
6	1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92	2019-2021
7	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90	2017-2020
8	1570	Edward	Male	2000-05-18	edward987@gmail.com	4	101	98	2019-2022

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	0	2
2	2018-2022	0	1
3	2019-2021	2	0
4	2019-2022	1	2

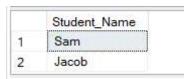
22. Select the name of the BCA Student who have Maximum Mark

select Student_Name from tblstudent where Student_Mark=(select MAX(Student_Mark) from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='BCA'));



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');



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

 \Box 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_ld Batch_id Student_Mark 2001-01-30 kat003@gmail.com 1 1993-08-10 sam008@gmail.com 3 1554 Female 103 94 1556 Sam Male 102 92 2000-05-18 edward987@gmail... 4 1570 Edward Male 101 98

25. Select the BCA student details who have Max Mark

select Student_Name,Student_Gender,Student_DOB,Student_Email,Course_Id,Batch_id,Student_Mark from tblstudent where Student_Mark=(select MAX(Student_Mark) from tblstudent where Course_Id=(select CourseId from tblcourse where Courseshortname='BCA'));

	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	Edward	Male	2000-05-18	edward987@gmail.com	4	101	98

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

jselect Student_Name,Student_Email from tblstudent where Student_Mark= |(select MAX(Student_Mark) from tblstudent where Student_Mark < (select MAX(Student_Mark) from tblstudent));</pre>

	Student_Name	Student_Email
1	Kat	kat003@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	Kat	2001-01-30	21
2	Avantika	1992-02-12	30
3	Sam	1993-08-10	29
4	Arushi	2001-02-10	21
5	Deyong	1996-11-12	26
6	Jacob	1997-12-10	25
7	Bella	1994-01-01	28
8	Edward	2000-05-18	22

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	Kat	January	2001
2	Avantika	February	1992
3	Sam	August	1993
4	Arushi	February	2001
5	Deyong	November	1996
6	Jacob	December	1997
7	Bella	January	1994
8	Edward	May	2000

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	deyong@gmail.com	1996-11-12

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	BCA	Arushi	88
2	B.Com	Avantika	84
3	BCA	Bella	90
4	MCA	Deyong	91
5	BCA	Edward	98
6	MCA	Jacob	92
7	BAA	Kat	94
8	BA	Sam	92

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

select * from tblstudent where YEAR(Student_Dob)<1995;</pre>

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
2	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92
3	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90

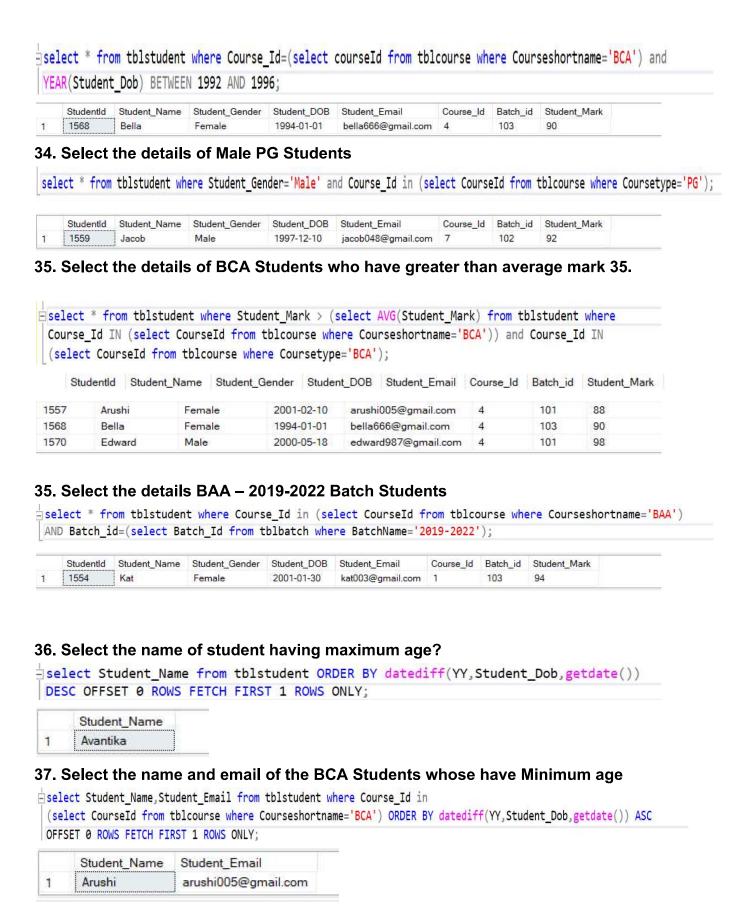
32. Select the Course short name, Batch name, total number of students in batch and Course wise Sample output

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

jselect 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	B.Com	2019-2022	1
2	BA	2019-2021	1
3	BAA	2017-2020	1
4	BCA	2017-2020	1
5	BCA	2019-2022	2
6	MCA	2018-2022	1
7	MCA	2019-2021	1

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



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

select * from tblstudent ORDER BY Student_DOB DESC;

9	StudentId	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88
2	1554	Kat	Female	2001-01-30	kat003@gmail.com	1	103	94
3	1570	Edward	Male	2000-05-18	edward987@gmail.c	4	101	98
4	1559	Jacob	Male	1997-12-10	jacob048@gmail.com	7	102	92
5	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91
6	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90
7	1556	Sam	Male	1993-08-10	sam008@gmail.com	3	102	92
8	1555	Avantika	Female	1992-02-12	avantika665@gmail	2	101	84

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

select * from tblstudent where Student_Mark BETWEEN 65 and 91;

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_Id	Batch_id	Student_Mark
1	1555	Avantika	Female	1992-02-12	avantika665@gmail.com	2	101	84
2	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88
3	1558	Deyong	Female	1996-11-12	deyong@gmail.com	7	100	91
4	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90

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;

	Studentld	Student_Name	Student_Gender	Student_DOB	Student_Email	Course_ld	Batch_id	Student_Mark
1	1570	Edward	Male	2000-05-18	edward987@gmail.com	4	101	98
2	1568	Bella	Female	1994-01-01	bella666@gmail.com	4	103	90
3	1557	Arushi	Female	2001-02-10	arushi005@gmail.com	4	101	88