

DBMS-LAB-ASSIGNMENT-3

Name:-S.Pranay Sai Teja

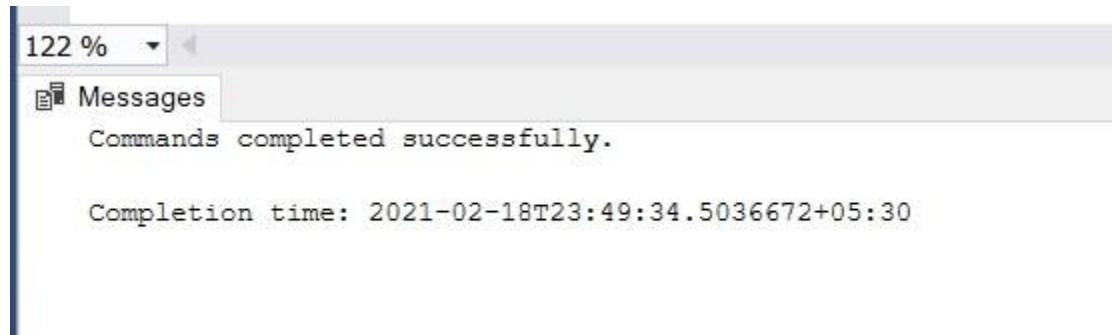
Reg.no:- 19BCS102

1)Add, Modify and Delete Column using Alter Command.

Adding Column:-

```
alter table T5_Employee  
Add Gender varchar(100)
```

Output:-



Checking :-

```
Select * from T5_Employee
```

Results		Messages						
	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings	Gender
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000	NULL
2	Mahesh	babu	1998-12-16	23	12000	6000	6000	NULL
3	rohith	vikram	2001-05-18	20	20000	10000	10000	NULL

Modifying Column:-

```
alter table T5_Employee
alter column Gender varchar(50)
```

Output:-

22 %

Messages

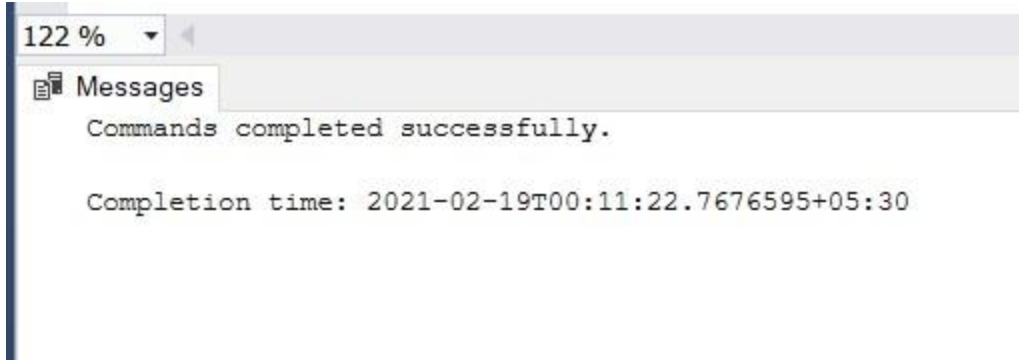
Commands completed successfully.

Completion time: 2021-02-19T00:04:19.1423325+05:30

Deleting Column:-

```
alter table T5_Employee
drop column Gender
```

Output:-



Checking:-

122 %

Results Messages

	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000

2) Insert 20 Employees Data into all the tables. Use all the 3 methods that I have showcased.

Method 1:-

insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Ram','charan','1990-12-12',12000,5000)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Aunpama','parameshwari','1990-12-12',13000,5200)

```

insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Ram','pothineni','1991-11-11',32000,5300)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('NTR','Ramarao','1987-10-10',14000,5060)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Vijay','Devarakonda','1992-09-09',51000,5500)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Allu','Arjun','1993-08-08',16000,4500)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Samantha','Akkineni','1994-07-07',19000,4000)
insert into T5_Employee(First_Name,Last_Name,Dob,Salary,Expenditure)
values ('Ravi','Teja','1995-06-06',16000,3000)

```

Output:-

	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000
4	Ram	charan	1990-12-12	31	12000	5000	7000
5	Aunpama	parameshwari	1990-12-12	31	13000	5200	7800
6	Ram	pothineni	1991-11-11	30	32000	5300	26700
7	NTR	Ramarao	1987-10-10	34	14000	5060	8940
8	Vijay	Devarakonda	1992-09-09	29	51000	5500	45500
9	Allu	Arjun	1993-08-08	28	16000	4500	11500
10	Samantha	Akkineni	1994-07-07	27	19000	4000	15000
11	Ravi	Teja	1995-06-06	26	16000	3000	13000

Method_2:-

```

insert into T5_Employee(First_Name, Last_Name,Dob)
select First_Name,Last_Name,Date_Of_Birth from T5_Group

```

Output:-

Results		Messages					
	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000
4	Ram	charan	1990-12-12	31	12000	5000	7000
5	Aunpama	parameshwari	1990-12-12	31	13000	5200	7800
6	Ram	pothineni	1991-11-11	30	32000	5300	26700
7	NTR	Ramarao	1987-10-10	34	14000	5060	8940
8	Vijay	Devarakonda	1992-09-09	29	51000	5500	45500
9	Allu	Arjun	1993-08-08	28	16000	4500	11500
10	Samantha	Akkineni	1994-07-07	27	19000	4000	15000
11	Ravi	Teja	1995-06-06	26	16000	3000	13000
12	pandit	Ashwin	2001-09-19	20	NULL	NULL	NULL
13	Vijay	Modi	2002-06-16	19	NULL	NULL	NULL
14	Arjun	varma	2001-11-25	20	NULL	NULL	NULL

Method 3:-

insert into T5_Employee values ('Pranay','Sai
Teja','2001-04-04',100000,10000)

insert into T5_Employee values
('Anupama','Munagapati','2002-03-04',90000,90000)

insert into T5_Employee values
('Lallitanjali','pothu','2002-03-21',80000,8000)

insert into T5_Employee values
('Mounika','Rayudu','2002-09-09',70000,7000)

insert into T5_Employee values ('Josha','sree','2001-04-09',60000,6000)

insert into T5_Employee values ('Gowtham','G','2001-04-09',500000,5000)

insert into T5_Employee values ('Ajay','A','2001-04-09',55000,5500)

insert into T5_Employee values ('chiti','Babu','2001-04-09',53000,5300)

insert into T5_Employee values ('Ghana','Shyam','2001-04-09',52000,5200)

Output:-

	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000
4	Ram	charan	1990-12-12	31	12000	5000	7000
5	Aunpama	parameshwari	1990-12-12	31	13000	5200	7800
6	Ram	pothineni	1991-11-11	30	32000	5300	26700
7	NTR	Ramarao	1987-10-10	34	14000	5060	8940
8	Vijay	Devarakonda	1992-09-09	29	51000	5500	45500
9	Allu	Arjun	1993-08-08	28	16000	4500	11500
10	Samantha	Akkineni	1994-07-07	27	19000	4000	15000
11	Ravi	Teja	1995-06-06	26	16000	3000	13000
12	pandit	Ashwin	2001-09-19	20	NULL	NULL	NULL
13	Vijay	Modi	2002-06-16	19	NULL	NULL	NULL
14	Arjun	varma	2001-11-25	20	NULL	NULL	NULL
15	Pranay	Sai Teja	2001-04-04	20	100000	10000	90000
16	Anupama	Munagapati	2002-03-04	19	90000	90000	0
17	Lallitanjali	pothu	2002-03-21	19	80000	8000	72000
18	Mounika	Rayudu	2002-09-09	19	70000	7000	63000
19	Joshua	sree	2001-04-09	20	60000	6000	54000
20	Gowtham	G	2001-04-09	20	50000	5000	45000
21	Ajay	A	2001-04-09	20	55000	5500	49500
22	chiti	Babu	2001-04-09	20	53000	5300	47700
23	Ghana	Shyam	2001-04-09	20	52000	5200	46800

3)Show Violation of Primary Key, Unique Not Null and default key constraints through insertion.

Creating a Table:-

```
create table T5_Class_student(  
Student_Id int primary key,  
Student_Name Varchar(100),
```

Dod Date Not Null,
Aadhar_no bigint unique,
section Varchar(5) default '10'
)

Violation of Primary key:-

insert into T5_Class_student(Student_Id,Student_Name,Dod) values
(1,'Pranay','2002-02-21')
insert into T5_Class_student(Student_Id,Student_Name,Dod) values
(1,'Pranay','2002-02-21')

Output:-

```
(1 row affected)
Msg 2627, Level 14, State 1, Line 60
Violation of PRIMARY KEY constraint 'PK__T5_Class__A2F4E98C6B2EDFD4'. Cannot insert duplicate key in object
The statement has been terminated.

Completion time: 2021-02-19T16:43:24.0792706+05:30
|
```

Violation of Unique key:-

insert into T5_Class_student(Student_Id,Aadhar_no,Dod) values
(3,'10011010101','2002-02-21')
insert into T5_Class_student(Student_Id,Aadhar_no,Dod) values
(2,'10011010101','2002-02-21')

Output:-


```
Msg 2627, Level 14, State 1, Line 63
Violation of UNIQUE KEY constraint 'UQ__T5_Class__91616FAB4DD2D0CE'. Cannot insert duplicate key in object 'dbo.T5_Class_student'
The statement has been terminated.
```

Violation of Not Null:-

insert into T5_Class_student(Student_Id,Aadhar_no,Dod) values
(4,'1001303030',null)

Output:-

```
Msg 515, Level 16, State 2, Line 67
Cannot insert the value NULL into column 'Dod', table 'DBMSlab.dbo.T5_Class_student'; column does not allow nulls. INSERT fails.
The statement has been terminated.
```

Completion time: 2021-02-19T16:54:08.4457884+05:30

Violation of Default :-

insert into T5_Class_student(Student_Id,Dod,Aadhar_no) values
(3,'2002-02-21',1028374)

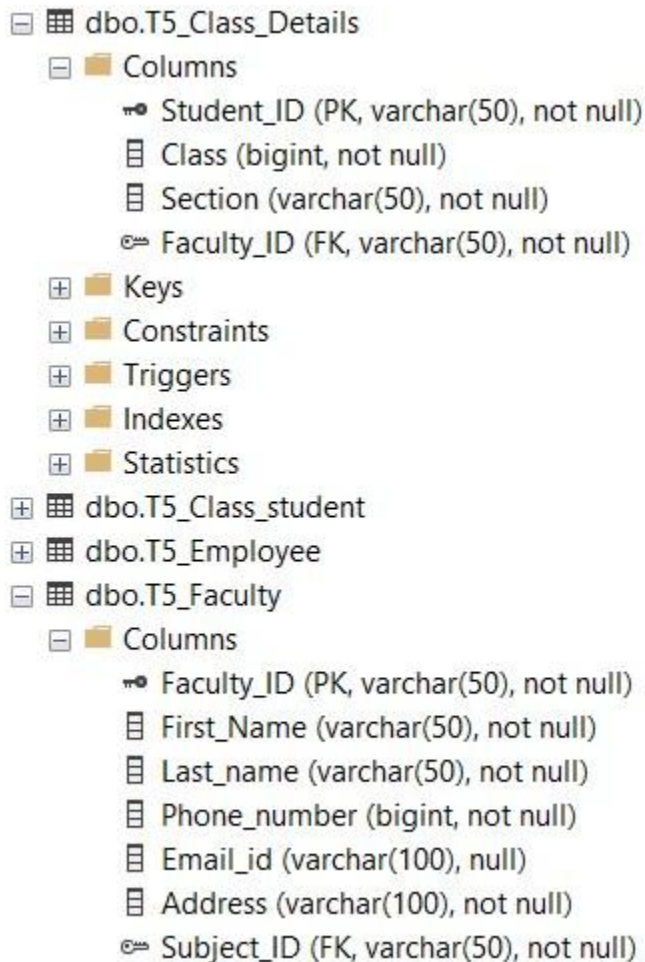
Output:-

Results		Messages			
	Student_Id	Student_Name	Dod	Aadhar_no	section
1	1	Pranay	2002-02-21	NULL	10
2	2	NULL	2002-02-21	10011010101	10
3	3	NULL	2002-02-21	1028374	10
4	4	NULL	2002-02-24	1001303031	10

4) Insert tuples into the table and see how foreign key constraint works if you try to insert into dependent table first.

Inserting values:-

insert into T5_Class_Details values ('19bcs102',10,'A','10fa23')



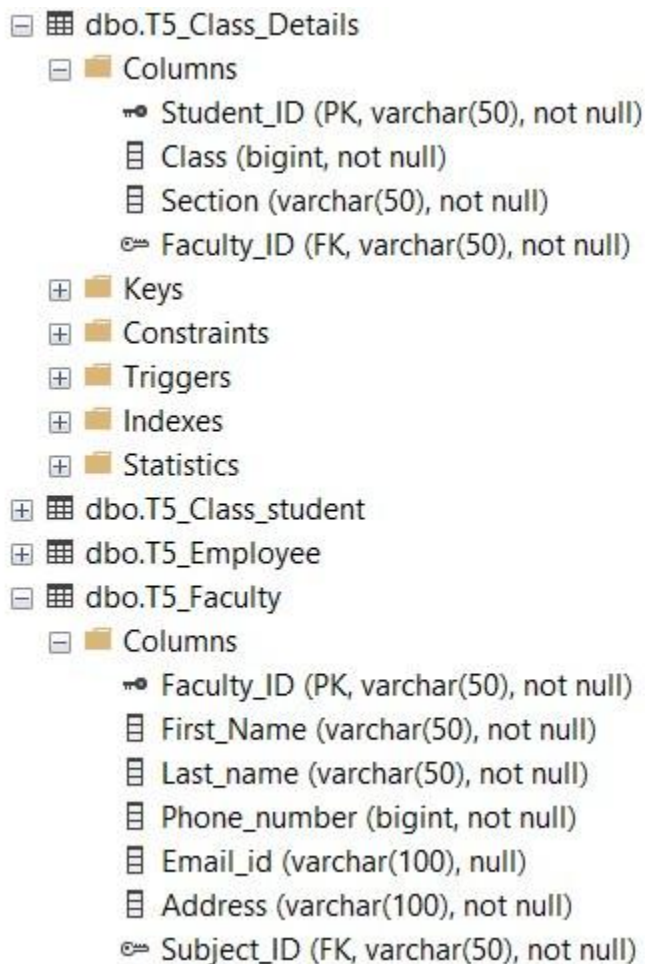
Output:-



5) Show Violation of Foreign Key Constraint when you try to delete from a base table. If you get an error explain why deletion gives an error.

Query:-

```
alter table T5_Class_Details  
drop column Faculty_ID
```



Output:-

Here, Faculty_ID column in T5_Class_Details table is dependent on Faculty_ID column in T5_Faculty table.

```
Msg 5074, Level 16, State 1, Line 75
The object 'FK_T5_Class_Details_T5_Faculty' is dependent on column 'Faculty_ID'.
Msg 4922, Level 16, State 9, Line 75
ALTER TABLE DROP COLUMN Faculty_ID failed because one or more objects access this column.
```

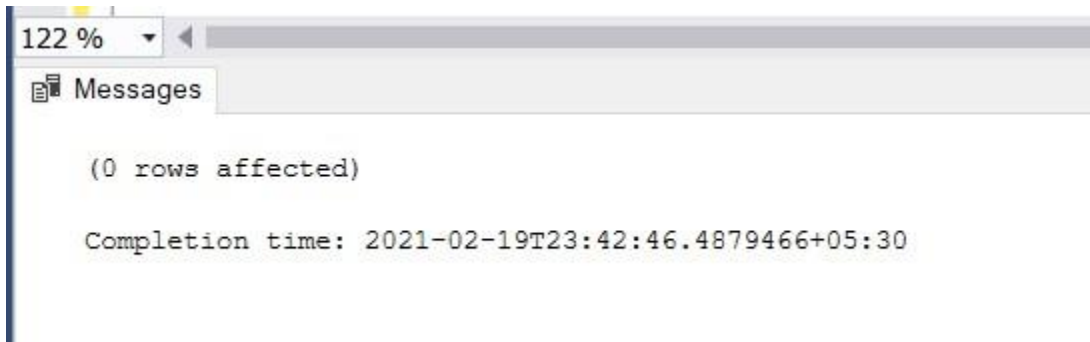
Completion time: 2021-02-19T17:09:03.6971069+05:30

6) Try to update a non-existing entity data and check for error.

Query:-

```
update T5_Class_student
set Student_Name ='Pranay'
where Student_Id = 5
```

Output:-



7) Add a column which has default value.

Query:-

```
alter table [dbo].[T5_Class_student]
add Class varchar(10) default '10th Class'
```

insert into T5_Class_student(Student_Id,Student_Name,Dod,Aadhar_no)
values (5, 'Sai Teja','2001-04-04',11110182)

Output:-

Results Messages						
	Student_Id	Student_Name	Dod	Aadhar_no	section	Class
1	1	Pranay	2002-02-21	NULL	10	NULL
2	2	NULL	2002-02-21	10011010101	10	NULL
3	3	NULL	2002-02-21	1028374	10	NULL
4			2002-02-24	1001303031	10	NULL
5		Sai Teja	2001-04-04	11110182	10	10th Class

8) 5 Simple Select queries to retrieve data from your database.

Query_1:-

select * from T5_Employee

Output:-

	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000
4	Ram	charan	1990-12-12	31	12000	5000	7000
5	Aunpama	parameshwari	1990-12-12	31	13000	5200	7800
6	Ram	pothineni	1991-11-11	30	32000	5300	26700
7	NTR	Ramarao	1987-10-10	34	14000	5060	8940
8	Vijay	Devarakonda	1992-09-09	29	51000	5500	45500
9	Allu	Arjun	1993-08-08	28	16000	4500	11500
10	Samantha	Akkineni	1994-07-07	27	19000	4000	15000
11	Ravi	Teja	1995-06-06	26	16000	3000	13000
12	pandit	Ashwin	2001-09-19	20	NULL	NULL	NULL
13	Vijay	Modi	2002-06-16	19	NULL	NULL	NULL
14	Arjun	varma	2001-11-25	20	NULL	NULL	NULL
15	Pranay	Sai Teja	2001-04-04	20	100000	10000	90000
16	Anupama	Munagapati	2002-03-04	19	90000	90000	0
17	Lallitanjali	pothu	2002-03-21	19	80000	8000	72000
18	Mounika	Rayudu	2002-09-09	19	70000	7000	63000
19	Joshua	sree	2001-04-09	20	60000	6000	54000
20	Gowtham	G	2001-04-09	20	50000	5000	45000
21	Ajay	A	2001-04-09	20	55000	5500	49500
22	chiti	Babu	2001-04-09	20	53000	5300	47700
23	Ghana	Shyam	2001-04-09	20	52000	5200	46800

Query 2:-

select top 10 * from T5_Employee

Output:-

Results		Messages					
	First_Name	Last_Name	Dob	Age	Salary	Expenditure	savings
1	Pranay	Sai teja	1999-10-12	22	100000	5000	95000
2	Mahesh	babu	1998-12-16	23	12000	6000	6000
3	rohith	vikram	2001-05-18	20	20000	10000	10000
4	Ram	charan	1990-12-12	31	12000	5000	7000
5	Aunpama	parameshwari	1990-12-12	31	13000	5200	7800
6	Ram	pothineni	1991-11-11	30	32000	5300	26700
7	NTR	Ramarao	1987-10-10	34	14000	5060	8940
8	Vijay	Devarakonda	1992-09-09	29	51000	5500	45500
9	Allu	Arjun	1993-08-08	28	16000	4500	11500
10	Samantha	Akkineni	1994-07-07	27	19000	4000	15000

Query_3:-

select First_Name from T5_Employee
where Expenditure = 5000

Output:-

Results		Messages					
	First_Name						
1	Pranay						
2	Ram						
3	Gowtham						

Query_4:-

select Dob from T5_Employee

where Age = 20
order by savings

Output:-

	Dob
1	2001-09-19
2	2001-11-25
3	2001-05-18
4	2001-04-09
5	2001-04-09
6	2001-04-09
7	2001-04-09
8	2001-04-09
9	2001-04-04

Query_5:-

select * from T5_Class_student
where Dod in(select Dob from T5_Employee where Dob = '2001-04-04')

Output:-

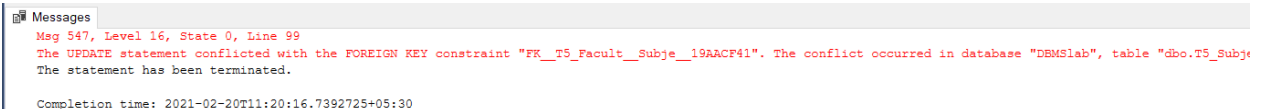
	Student_Id	Student_Name	Dod	Aadhar_no	section	Class
1	5	Sai Teja	2001-04-04	11110182	10	10th Class

9)Show how Foreign key constraint effects Updating a dependent table when value is not existing and in Base table where the value is referred and you want to update it.

Query:-

```
update [dbo].[T5_Faculty]
set Subject_ID ='ca'
where First_Name= 'prasad'
```

Output:-



The screenshot shows a 'Messages' window in SQL Server. It contains an error message (Msg 547, Level 16, State 0, Line 99) stating: 'The UPDATE statement conflicted with the FOREIGN KEY constraint "FK__T5_Facult__Subje__19AACF41". The conflict occurred in database "DBMSlab", table "dbo.T5_Subje...". The statement has been terminated.' Below the message, it shows the completion time: 2021-02-20T11:20:16.7392725+05:30.

Msg 547, Level 16, State 0, Line 99
The UPDATE statement conflicted with the FOREIGN KEY constraint "FK__T5_Facult__Subje__19AACF41". The conflict occurred in database "DBMSlab", table "dbo.T5_Subje...". The statement has been terminated.
Completion time: 2021-02-20T11:20:16.7392725+05:30