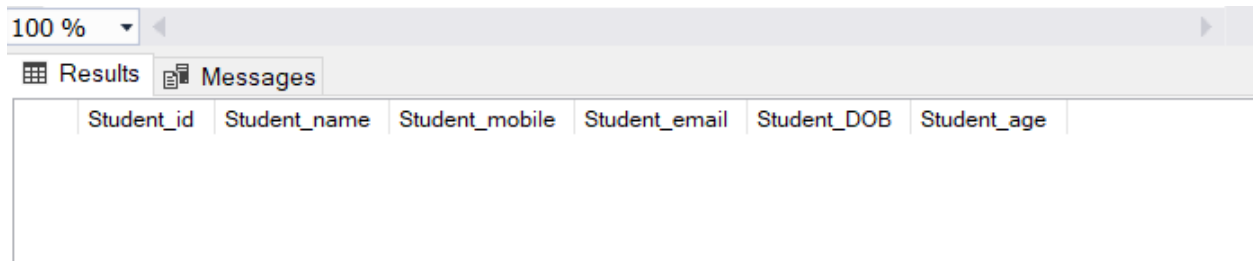


NAME : D ABHINAV

REG NO : 19BCS040

DBMS LAB 3:

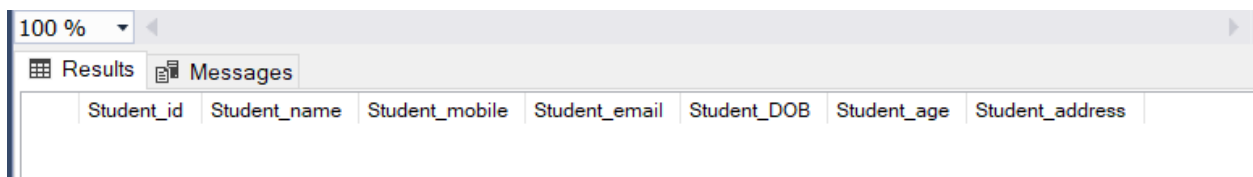
1. Add, Modify and Delete Column using Alter Command.



Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
------------	--------------	----------------	---------------	-------------	-------------

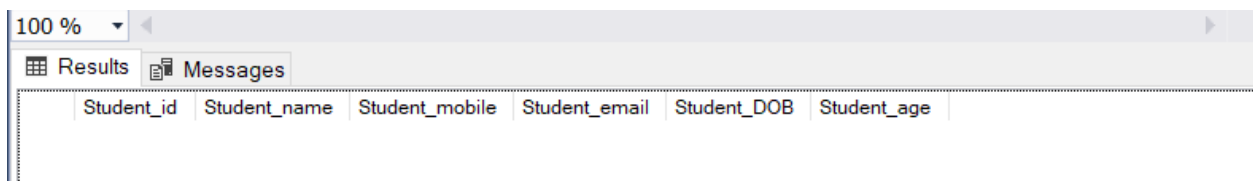
```
ALTER TABLE dbo.T12_Students  
ADD Student_address VARCHAR(50);
```

```
ALTER TABLE dbo.T12_Students  
ALTER COLUMN Student_address VARCHAR(100);
```



Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age	Student_address
------------	--------------	----------------	---------------	-------------	-------------	-----------------

```
ALTER TABLE dbo.T12_Students  
DROP COLUMN Student_address;
```



Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
------------	--------------	----------------	---------------	-------------	-------------

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

```
INSERT INTO
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)
VALUES(21,'A','0000001','xyz@gmail.com','01-01-2021');
```

```
INSERT INTO dbo.T12_Students
VALUES(22,'B','0000001','xyz@gmail.com','01-01-2021');
```

```
INSERT INTO
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)
(SELECT
Student_id,Student_name,Student_mobile,Student_email,Student_DOB FROM Ex_school.dbo.Ex_Students where Student_id =30);
```

```
INSERT INTO dbo.T12_Students
VALUES(23,'apple','00234561','xyz@gmail.com','01-01-2021');
INSERT INTO dbo.T12_Students
VALUES(24,'boy','007521','xyz@gmail.com','01-01-2005');
INSERT INTO dbo.T12_Students
VALUES(25,'cat','83768421','xyz@gmail.com','01-01-2001');
INSERT INTO dbo.T12_Students
VALUES(26,'dog','3565461','xyz@gmail.com','01-01-2001');
INSERT INTO dbo.T12_Students
VALUES(27,'elephant','07225651','xyz@gmail.com','01-01-2001');
```

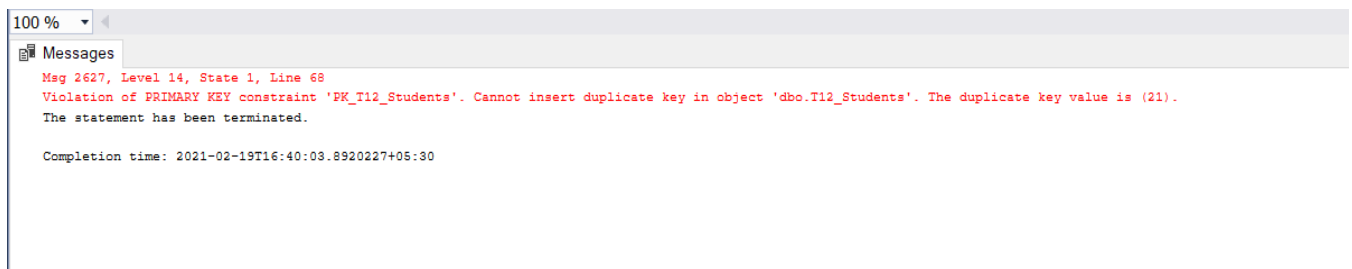
```
INSERT INTO dbo.T12_Students
VALUES(28,'fish','005621','xyz@gmail.com','01-01-2001');
INSERT INTO dbo.T12_Students
VALUES(29,'goat','000261','xyz@gmail.com','01-01-2001');
INSERT INTO dbo.T12_Students
VALUES(31,'horse','06735401','xyz@gmail.com','01-01-1999');
INSERT INTO dbo.T12_Students
VALUES(32,'iland','0067341','xyz@gmail.com','01-01-1991');
INSERT INTO dbo.T12_Students
VALUES(33,'jack','00674301','xyz@gmail.com','01-01-1991');
INSERT INTO dbo.T12_Students
VALUES(34,'ram','0054301','xyz@gmail.com','01-01-1991');
INSERT INTO dbo.T12_Students
VALUES(35,'rom','0756301','xyz@gmail.com','01-01-1991');
INSERT INTO dbo.T12_Students
VALUES(36,'cpu','008301','xyz@gmail.com','01-01-1991');
INSERT INTO dbo.T12_Students
VALUES(37,'rat','00445563401','xyz@gmail.com','01-01-2005');
INSERT INTO dbo.T12_Students
VALUES(38,'monkey','057641','xyz@gmail.com','01-01-1985');
INSERT INTO dbo.T12_Students
VALUES(39,'sun','04673241','xyz@gmail.com','01-01-1961');
INSERT INTO dbo.T12_Students
VALUES(40,'moon','00673251','xyz@gmail.com','01-01-2001');
```

Student id = 98;						
100 %						
Results Messages						
	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	21	A	0000001	xyz@gmail.com	2021-01-01	0
2	22	B	0000001	xyz@gmail.com	2021-01-01	0
3	23	apple	00234561	xyz@gmail.com	2021-01-01	0
4	24	boy	007521	xyz@gmail.com	2005-01-01	16
5	25	cat	83768421	xyz@gmail.com	2001-01-01	20
6	26	dog	3565461	xyz@gmail.com	2001-01-01	20
7	27	elephant	07225651	xyz@gmail.com	2001-01-01	20
8	28	fish	005621	xyz@gmail.com	2001-01-01	20
9	29	goat	000261	xyz@gmail.com	2001-01-01	20
10	30	kk	56789	xyz@gmail.com	2000-01-01	21
11	31	horse	06735401	xyz@gmail.com	1999-01-01	22
12	32	iland	0067341	xyz@gmail.com	1991-01-01	30
13	33	jack	00674301	xyz@gmail.com	1991-01-01	30
14	34	ram	0054301	xyz@gmail.com	1991-01-01	30
15	35	rom	0756301	xyz@gmail.com	1991-01-01	30
16	36	cpu	008301	xyz@gmail.com	1991-01-01	30
17	37	rat	00445563401	xyz@gmail.com	2005-01-01	16
18	38	monkey	057641	xyz@gmail.com	1985-01-01	36
19	39	sun	04673241	xyz@gmail.com	1961-01-01	60
20	40	moon	00673251	xyz@gmail.com	2001-01-01	20

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

INSERT INTO

```
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)
VALUES(21,'A','0000001','xyz@gmail.com','01-01-2021');
```



100 %

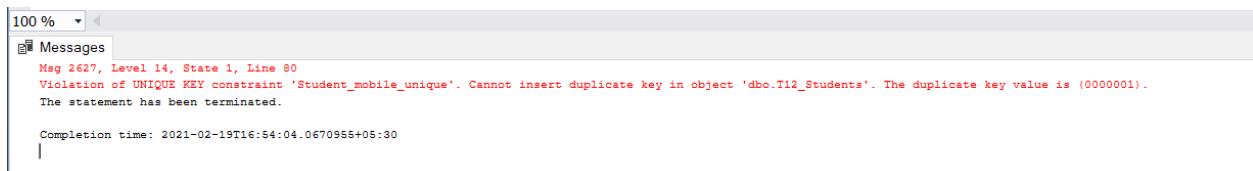
Messages

Msg 2627, Level 14, State 1, Line 68
Violation of PRIMARY KEY constraint 'PK_T12_Students'. Cannot insert duplicate key in object 'dbo.T12_Students'. The duplicate key value is (21).
The statement has been terminated.

Completion time: 2021-02-19T16:40:03.8920227+05:30

INSERT INTO

```
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)
VALUES(16,'A','0000001','xyz@gmail.com','01-01-2021');
```



100 %

Messages

Msg 2627, Level 14, State 1, Line 80
Violation of UNIQUE KEY constraint 'Student_mobile_unique'. Cannot insert duplicate key in object 'dbo.T12_Students'. The duplicate key value is (0000001).
The statement has been terminated.

Completion time: 2021-02-19T16:54:04.0670955+05:30

INSERT INTO

```
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)
VALUES(16,'A','0000001','xyz@gmail.com',null);
```

```
100 %
Messages
Msg 515, Level 16, State 2, Line 80
Cannot insert the value NULL into column 'Student_DOB', table 'School.dbo.T12_Students'; column does not allow nulls. INSERT fails.
The statement has been terminated.

Completion time: 2021-02-19T16:55:43.5465200+05:30
```

```
ALTER TABLE dbo.T12_Students
ADD CONSTRAINT Student_email_default DEFAULT 'xyz@gmail.com'
FOR Student_email ;
```

```
INSERT INTO
dbo.T12_Students(Student_id,Student_name,Student_mobile,Stud
ent_email,Student_DOB)
VALUES(16,'DEFAULT','00000543','xyz@gmail.com','01-01-
1900');
```

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	16	DEFAULT	00000543	xyz@gmail.com	1900-01-01	121
2	21	A	0000001	xyz@gmail.com	2021-01-01	0

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

insert into dependent table first.

```
INSERT INTO dbo.T12_Departments
values(01,'cse','computer science','0',233);
```

```
Messages
Msg 547, Level 16, State 0, Line 86
The INSERT statement conflicted with the FOREIGN KEY constraint "FK_T12_Departments_T12_School". The conflict occurred in database "School", table "dbo.T12_School", column 'School_id'.
The statement has been terminated.

Completion time: 2021-02-19T17:11:59.1694204+05:30
```

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

```
DELETE FROM T3_CustomerDetails WHERE
customer_id = 1050;
```

It shows error . The deletion is giving an error as it violates referential integrity constraint. First, we need to delete the corresponding tuple from the dependent table and then the base table.

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

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	21	A	0000001	xyz@gmail.com	2021-01-01	0
2	22	B	0000001	xyz@gmail.com	2021-01-01	0
3	23	apple	00234561	xyz@gmail.com	2021-01-01	0

```
UPDATE dbo.T12_Students
SET Student_mobile = '794709298'
WHERE Student_id =22;
```

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	21	A	0000001	xyz@gmail.com	2021-01-01	0
2	22	B	794709298	xyz@gmail.com	2021-01-01	0
3	23	apple	00234561	xyz@gmail.com	2021-01-01	0

7. Add a column which has default value.

```
ALTER TABLE dbo.T12_Students  
ADD Student_FAV VARCHAR(50) DEFAULT 'FOOTBALL';
```

```
INSERT INTO  
dbo.T12_Students(Student_id,Student_name,Student_mobile,Student_email,Student_DOB)  
VALUES(01,'DEFAULT','0111111','xyz@gmail.com','01-01-1900');
```

Results		Messages						
	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age	Student_FAV	
1	1	DEFAULT	0111111	xyz@gmail.com	1900-01-01	121	FOOTBALL	

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

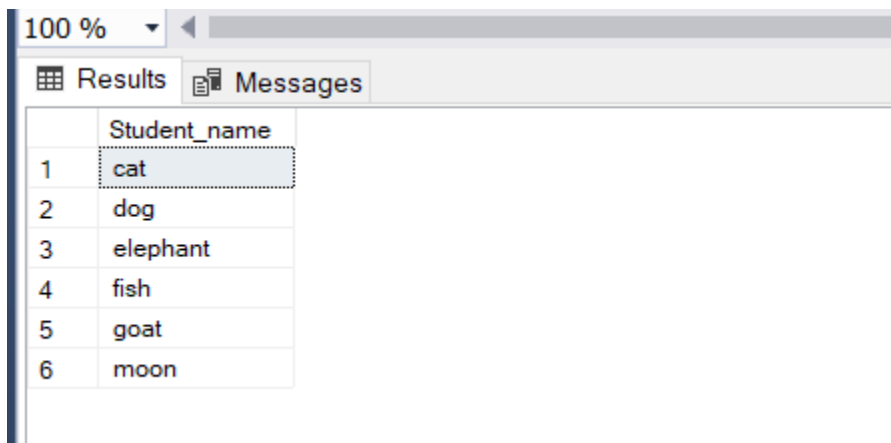
```
SELECT Student_name from T12_Students  
where Student_FAV = 'FOOTBALL';
```



The screenshot shows a database query result window. At the top, there is a zoom level of '100 %' and a scroll bar. Below the zoom, there are two tabs: 'Results' (active) and 'Messages'. The 'Results' tab displays a table with one column, 'Student_name', and one row containing the value 'messi'.

	Student_name
1	messi

```
SELECT Student_name from T12_Students  
where Student_age = 20;
```



The screenshot shows a database query result window. At the top, there is a zoom level of '100 %' and a scroll bar. Below the zoom, there are two tabs: 'Results' (active) and 'Messages'. The 'Results' tab displays a table with one column, 'Student_name', and six rows containing the values 'cat', 'dog', 'elephant', 'fish', 'goat', and 'moon'.

	Student_name
1	cat
2	dog
3	elephant
4	fish
5	goat
6	moon

```
Select top 10 * from T12_Students;
```

100 %

Results

Messages

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	1	messi	0111111	xyz@gmail.com	1900-01-01	121
2	16	DEFAULT	00000543	xyz@gmail.com	1900-01-01	121
3	21	A	0000001	xyz@gmail.com	2021-01-01	0
4	22	B	794709298	xyz@gmail.com	2021-01-01	0
5	23	apple	00234561	xyz@gmail.com	2021-01-01	0
6	24	boy	007521	xyz@gmail.com	2005-01-01	16
7	25	cat	83768421	xyz@gmail.com	2001-01-01	20
8	26	dog	3565461	xyz@gmail.com	2001-01-01	20
9	27	elephant	07225651	xyz@gmail.com	2001-01-01	20
10	28	fish	005621	xyz@gmail.com	2001-01-01	20

Select * from T12_Students;

Results

Messages

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age
1	1	messi	0111111	xyz@gmail.com	1900-01-01	121
2	16	DEFAULT	00000543	xyz@gmail.com	1900-01-01	121
3	21	A	0000001	xyz@gmail.com	2021-01-01	0
4	22	B	794709298	xyz@gmail.com	2021-01-01	0
5	23	apple	00234561	xyz@gmail.com	2021-01-01	0
6	24	boy	007521	xyz@gmail.com	2005-01-01	16
7	25	cat	83768421	xyz@gmail.com	2001-01-01	20
8	26	dog	3565461	xyz@gmail.com	2001-01-01	20
9	27	elephant	07225651	xyz@gmail.com	2001-01-01	20
10	28	fish	005621	xyz@gmail.com	2001-01-01	20
11	29	goat	000261	xyz@gmail.com	2001-01-01	20
12	30	kk	56789	xyz@gmail.com	2000-01-01	21
13	31	horse	06735401	xyz@gmail.com	1999-01-01	22
14	32	iland	0067341	xyz@gmail.com	1991-01-01	30
15	33	jack	00674301	xyz@gmail.com	1991-01-01	30
16	34	ram	0054301	xyz@gmail.com	1991-01-01	30
17	35	rom	0756301	xyz@gmail.com	1991-01-01	30
18	36	cpu	008301	xyz@gmail.com	1991-01-01	30
19	37	rat	00445563401	xyz@gmail.com	2005-01-01	16
20	38	monkey	057641	xyz@gmail.com	1985-01-01	36
21	39	sun	04673241	xyz@gmail.com	1961-01-01	60
22	40	moon	00673251	xyz@gmail.com	2001-01-01	20

```
Select * from T12_Students
where Student_id in (Select Student_id from T12_Departments
where Student_id = 595);
```

100 %

Results

Messages

	Student_id	Student_name	Student_mobile	Student_email	Student_DOB	Student_age	Student_FAV
1	32	iland	0067341	xyz@gmail.com	1991-01-01	30	NULL