DBMS LAB ASSIGNMENT – 3

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Reg no : 19BCS011
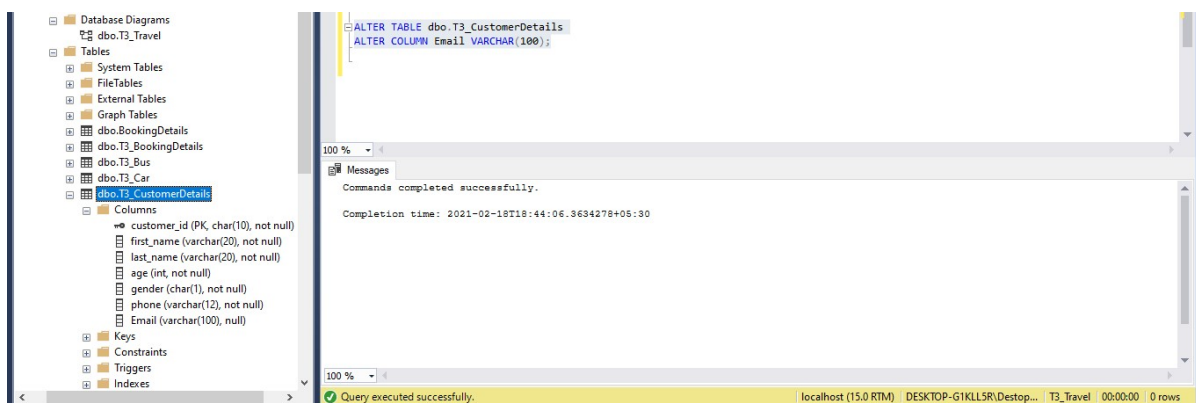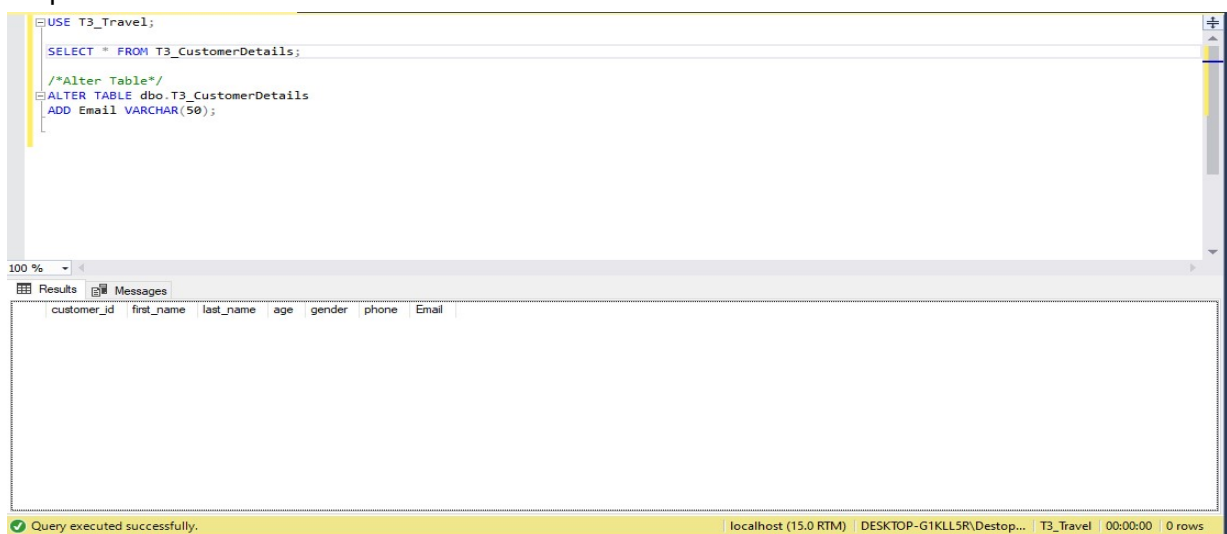
1. Add, Modify and Delete Column using Alter Command

```
/*Alter Table*/
ALTER TABLE dbo.T3_CustomerDetails
ADD Email VARCHAR(50);

ALTER TABLE dbo.T3_CustomerDetails
ALTER COLUMN Email VARCHAR(100);

ALTER TABLE dbo.T3_CustomerDetails
DROP COLUMN Email;
```
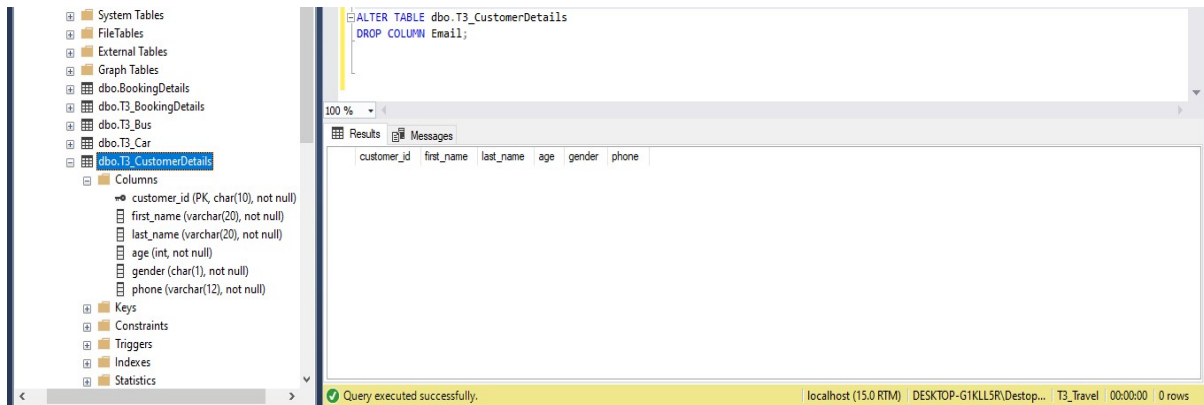
Output:

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

```sql
/*INSERTING 1.insert into parameters and values 2.insert into all the values directly 3.insert into using select*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1001,'Mark','Stone', 23, 'M', '7666051848');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1101,'Janhvi','Rathod', 31, 'F', '9822459012');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
(SELECT customer_id, first_name, last_name, age, gender, phone FROM TRAVEL.dbo.CustomerDetails where customer_id = 1000);

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1004,'Rosy','Paul', 40, 'F', '9876543210');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1105,'George','Barnes', 24, 'M', '5628745676');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1006,'Susan','Noble', 21, 'F', '8887051648');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1007,'Erwin','Star', 30, 'M', '5629753388');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1008,'Alice','Buck', 41, 'F', '9922334466');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1109,'Frank','Borders', 22, 'M', '7149688201');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1010,'Gill','Sen', 33, 'F', '7477448981');
```

```
INSERT INTO dbo.T3_CustomerDetails
VALUES(1012,'Hanna','Khan', 24, 'F', '6666115848');

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1011,'Mona','Azuma', 21, 'F', '8899881234');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1013,'Tia','Kapoor', 28, 'F', '5544051867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1014,'Svetlana','Rai', 29, 'F', '9999888867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1015,'Romi','Kapoor', 26, 'F', '5544251867');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1016,'Pinky','Patel', 54, 'F', '5544051888');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1017,'Vijay','Raut', 36, 'M', '8866443311');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1018,'Tej','Sengupta', 46, 'M', '9933456876');

INSERT INTO dbo.T3_CustomerDetails
VALUES(1019,'Bear','Bench', 24, 'M', '9999999900');
```

Output:

	customer_id	first_name	last_name	age	gender	phone
1	1000	Manya	Mehta	19	F	7623444591
2	1001	Mark	Stone	23	M	7666051848
3	1002	James	Cook	30	M	6666051848
4	1004	Rosy	Paul	40	F	9876543210
5	1006	Susan	Noble	21	F	8887051648
6	1007	Erwin	Star	30	M	5629753388
7	1008	Alice	Buck	41	F	9922334466
8	1010	Gill	Sen	33	F	7477448981
9	1011	Mona	Azuma	21	F	8899881234
10	1012	Hanna	Khan	24	F	6666115848
11	1013	Tia	Kapoor	28	F	5544051867
12	1014	Svetlana	Rai	29	F	9999888867
13	1015	Romi	Kapoor	26	F	5544251867
14	1016	Pinky	Patel	54	F	5544051888
15	1017	Vijay	Raut	36	M	8866443311
16	1018	Tej	Sengupta	46	M	9933456876
17	1019	Bear	Bench	24	M	9999999900
18	1101	Janhvi	Rathod	31	F	9822459012
19	1105	George	Barnes	24	M	5628745676
20	1109	Frank	Borders	22	M	7149688201

Query executed successfully.   localhost (15.0 RTM) | DESKTOP-G1KLL5R\Destop... | T3_Travel | 00:00:00 | 20 rows

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

```sql
/*Violation of Primary key constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1001,'Robin','Stone', 23, 'M', '7666051848');
```

100 %

Messages

Msg 2627, Level 14, State 1, Line 76
Violation of PRIMARY KEY constraint 'PK_T3_CustomerDetails'. Cannot insert duplicate key in object 'dbo.T3_CustomerDetails'. The duplicate key value is (1001
The statement has been terminated.

Completion time: 2021-02-18T19:46:09.9116347+05:30

```sql
/*Violation of Unique constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1030,'Robin','Steel', 23, 'M', '7666054443');
```

100 %

Messages

Msg 2627, Level 14, State 1, Line 94
Violation of UNIQUE KEY constraint 'UQ__T3_Custo__0F587AE6EAA08238'. Cannot insert duplicate key in object 'dbo.T3_CustomerDetails'. The duplicate key value is (Robin).
The statement has been terminated.

Completion time: 2021-02-18T19:59:16.3996926+05:30

```
/*Violation of Not Null constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1211,'Robin','Stone', 23, 'M', NULL);
```

Messages

Msg 515, Level 16, State 2, Line 86
Cannot insert the value NULL into column 'phone', table 'T3_Travel.dbo.T3_CustomerDetails'; column does not allow nulls. INSERT fails.
The statement has been terminated.

Completion time: 2021-02-18T19:50:20.7705802+05:30

```
ALTER TABLE dbo.T3_CustomerDetails
ADD CONSTRAINT df_age
DEFAULT '20' FOR age;

/*Violation of default constraint*/
INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1040,'Raghav','Steel', 23, 'M', '7666054483');
```

Messages

(1 row affected)

Completion time: 2021-02-18T20:12:23.3955953+05:30

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.T3_BookingDetails
VALUES(1050,123456,1500,'2021-02-18',0,NULL,NULL);
```

Messages

Msg 547, Level 16, State 0, Line 109
The INSERT statement conflicted with the FOREIGN KEY constraint "FK_T3_BookingDetails_T3_CustomerDetails". The conflict occurred in database "T3_Travel", table "dbo.T3_CustomerDetai
The statement has been terminated.

Completion time: 2021-02-18T20:17:13.1141473+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;
```

100 %

Messages

Msg 547, Level 16, State 0, Line 117
The DELETE statement conflicted with the REFERENCE constraint "FK_T3_BookingDetails_T3_CustomerDetails". The conflict occurred in database "T3_Travel", table "dbo.T3_BookingDetails'
The statement has been terminated.

Completion time: 2021-02-18T20:23:12.8435276+05:30

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.

```
UPDATE dbo.T3_CustomerDetails
SET last_name = 'Mickey'
WHERE customer_id = 1060
```

100 %

Messages

(0 rows affected)

Completion time: 2021-02-18T20:27:21.7988264+05:30

7. Add a column which has default value.

```
ALTER TABLE dbo.T3_CustomerDetails
ADD middle_name VARCHAR(50) DEFAULT 'Middle';

INSERT INTO dbo.T3_CustomerDetails(customer_id, first_name, last_name, age, gender, phone)
VALUES(1440,'Rani','Stones', 33, 'F', '7626054483');
```

100 %

Results | Messages

	customer_id	first_name	last_name	age	gender	phone	middle_name
24	1440	Rani	Stones	33	F	7626054483	Middle

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...

Ln 4   Col 1   Ch 1   INS

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

```
/*Simple Select Query*/
Select first_name from T3_CustomerDetails
where gender = 'M';

Select top 10 * from T3_CustomerDetails;

Select last_name from T3_CustomerDetails
where age = 23;

Select * from T3_BookingDetails;

Select * from T3_CustomerDetails
where customer_id in (Select customer_id from T3_BookingDetails
where customer_id = 1050);
```

Output:

```
/*Simple Select Query*/
Select first_name from T3_CustomerDetails
where gender = 'M';
```

100 %

Results | Messages

	first_name
1	Mark
2	James
3	Erwin
4	Vijay
5	Tej
6	Bear
7	Raghav
8	George
9	Frank
10	Robin

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...   T3_Travel   00:00:00   10 rows

```sql
Select top 10 * from T3_CustomerDetails;
```

	customer_id	first_name	last_name	age	gender	phone	middle_name
1	1000	Manya	Mehta	19	F	7623444591	NULL
2	1001	Mark	Stone	23	M	7666051848	NULL
3	1002	James	Cook	30	M	6666051848	NULL
4	1004	Rosy	Paul	40	F	9876543210	NULL
5	1006	Susan	Noble	21	F	8887051648	NULL
6	1007	Erwin	Star	30	M	5629753388	NULL
7	1008	Alice	Buck	41	F	9922334466	NULL
8	1010	Gill	Sen	33	F	7477448981	NULL
9	1011	Mona	Azuma	21	F	8899881234	NULL
10	1012	Hanna	Khan	24	F	6666115848	NULL

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...   T3_Travel   00:00:00   10 rows

---

- customer_id (PK, char(10
- first_name (varchar(20),
- last_name (varchar(20),
- age (int, not null)
- gender (char(1), not null)
- phone (varchar(12), not n

Keys
Constraints
Triggers
Indexes
    PK_T3_CustomerDetails (
Statistics
dbo.T3_DestinationDetails
dbo.T3_EmployeeDetails
dbo.T3_Flight
dbo.T3_HotelsAtDestination
dbo.T3_PackageDetails
dbo.T3_Train
Views
External Resources
Synonyms
Programmability
Service Broker
Storage
Security

```sql
Select last_name from T3_CustomerDetails
where age = 23;
```

	last_name
1	Stone
2	Steel
3	Iyer
4	Stone

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...   T3_Travel   00:00:00   4 rows

Ready   Ln 154   Col 1   Ch 1   INS

8:40 PM
18/2/21

- phone (varchar(12), not n

Keys
Constraints
Triggers
Indexes
    PK_T3_CustomerDetails (
Statistics
dbo.T3_DestinationDetails
dbo.T3_EmployeeDetails
dbo.T3_Flight
dbo.T3_HotelsAtDestination
dbo.T3_PackageDetails
dbo.T3_Train
Views
External Resources
Synonyms
Programmability
Service Broker
Storage
Security

```sql
Select * from T3_BookingDetails;
```

	customer_id	booking_id	payment_amount	payment_dateTime	refunded	refund_amount	refund_dateTime
1	1050	123456	1500.00	2021-02-18 00:00:00.000	0	NULL	NULL

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...   T3_Travel   00:00:00   1 rows

Ready   Ln 150   Col 1   Ch 1   INS

8:42 PM
18/2/21

```
Select * from T3_CustomerDetails
where customer_id in (Select customer_id from T3_BookingDetails
where customer_id = 1050);
```

	customer_id	first_name	last_name	age	gender	phone	middle_name
1	1050	Rubina	Iyer	23	F	7666054409	NULL

Query executed successfully.   localhost (15.0 RTM)   DESKTOP-G1KLL5R\Destop...   T3_Travel   00:00:00   1 rows

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.

```
UPDATE dbo.T3_BookingDetails
SET customer_id = 1131
WHERE booking_id = 123456;
```

Messages

Msg 547, Level 16, State 0, Line 163
The UPDATE statement conflicted with the FOREIGN KEY constraint "FK_T3_BookingDetails_T3_CustomerDetails". The conflict occurred in database "T3_Travel", table "dbo.T3_CustomerDetai
The statement has been terminated.

Completion time: 2021-02-18T20:54:40.6301193+05:30