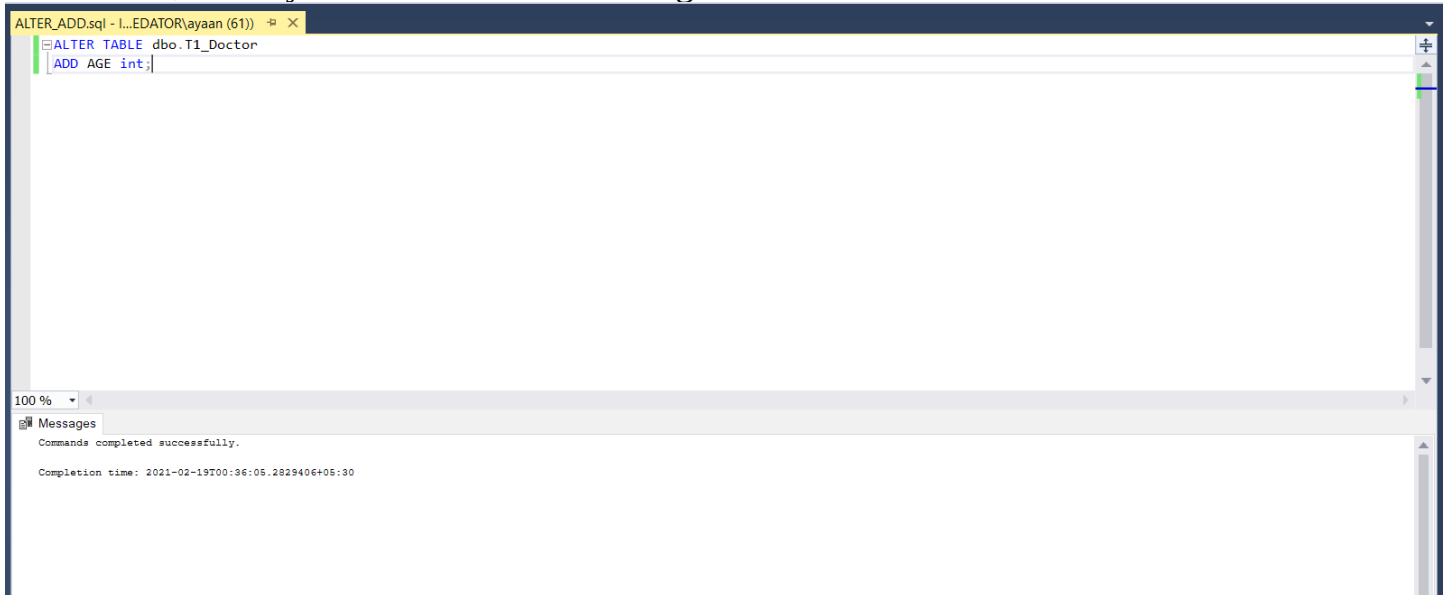


# DBMS LAB ASSIGNMENT 3

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**REG NO. - 19BCS013**


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



The screenshot shows a SQL Server Enterprise Manager window with a query editor. The query is: `ALTER TABLE dbo.T1_Doctor  
ADD AGE int;`. The Messages pane at the bottom shows: `Commands completed successfully.` and `Completion time: 2021-02-19T00:36:05.2829406+05:30`.

```
ALTER_ADD.sql - I...EDATOR\ayaan (61))  
ALTER TABLE dbo.T1_Doctor  
ADD AGE int;
```

100 %  
Messages  
Commands completed successfully.  
Completion time: 2021-02-19T00:36:05.2829406+05:30



The screenshot shows a SQL Server Enterprise Manager window with a query editor. The query is: `ALTER TABLE dbo.T1_Doctor  
ALTER COLUMN AGE varchar(3);`. The Messages pane at the bottom shows: `Commands completed successfully.` and `Completion time: 2021-02-19T00:40:27.3558007+05:30`.

```
ALTER_MODIFY.sql...DATOR\ayaan (54))*  
ALTER TABLE dbo.T1_Doctor  
ALTER COLUMN AGE varchar(3);
```

100 %  
Messages  
Commands completed successfully.  
Completion time: 2021-02-19T00:40:27.3558007+05:30

```
ALTER_DROP.sql -...EDATOR\ayaan (51)) * X
ALTER TABLE dbo.T1_Doctor
DROP COLUMN AGE;

100 %
Messages
Commands completed successfully.

Completion time: 2021-02-19T00:41:46.1239246+05:30
```

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

```
DOCTOR_DATA.sql...DATOR\ayaan (65)) * X
INSERT INTO dbo.T1_Doctor(doctor_id, doctor_name, doctor_address, doctor_degree, doctor_phone)
VALUES (101, 'ARJUN', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (102, 'JAMES', 'NZ', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor(doctor_id, doctor_name, doctor_address, doctor_degree, doctor_phone)
(SELECT doctor_id, doctor_name, doctor_address, doctor_degree, doctor_phone FROM Hospital.dbo.T1_Doctor where doctor_id = 100);
INSERT INTO dbo.T1_Doctor
VALUES (103, 'RAJ', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (104, 'DINESH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (105, 'KRISH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (106, 'AKARSH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (107, 'DIVESH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (108, 'RAJESH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (109, 'TRISH', 'US', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (110, 'UTKARSH', 'GUJ', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (111, 'JAY', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (112, 'ADITYA', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (113, 'RON', 'UK', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (114, 'SIRAJ', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (115, 'BUPRAH', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (116, 'SIKHAR', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (117, 'ABHISHEK', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (118, 'DIVYA', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (119, 'SREYA', 'UP', 'MBBS', 0123456789);
INSERT INTO dbo.T1_Doctor
VALUES (120, 'VIPIN', 'UP', 'MBBS', 0123456789);
```

	Results	Messages			
	doctor_id	doctor_name	doctor_address	doctor_degree	doctor_phone
1	117	ABHISHEK	UP	MBBS	123456789
2	112	ADITYA	UP	MBBS	123456789
3	106	AKARSH	UP	MBBS	123456789
4	101	ARJUN	UP	MBBS	123456789
5	115	BUMRAH	UP	MBBS	123456789
6	104	DINESH	UP	MBBS	123456789
7	107	DIVESH	UP	MBBS	123456789
8	118	DIVYA	UP	MBBS	123456789
9	102	JAMES	NZ	MBBS	123456789
10	111	JAY	UP	MBBS	123456789
11	105	KRISH	UP	MBBS	123456789
12	103	RAJ	UP	MBBS	123456789
13	108	RAJESH	UP	MBBS	123456789
14	113	RON	UK	MBBS	123456789
15	100	RUPAM	UP	MBBS	123456789
16	116	SIKKHAR	UP	MBBS	123456789
17	114	SIRAJ	UP	MBBS	123456789
18	119	SREYA	UP	MBBS	123456789
19	109	TRISH	US	MBBS	123456789
20	110	UTKARSH	GUJ	MBBS	123456789
21	120	VIPIN	UP	MBBS	123456789

✔ Query executed successfully.

localhost (15.0 RTM) | PREDATOR\ayaan (57) | Hospital | 00:00:00 | 21 rows

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

VOI\_PK.sql - local...EDATOR\ayaan (65))

```
INSERT INTO dbo.T1_Doctor
VALUES(100, 'AMAR', 'RJ', 'MBBS', 0123456789);
```

100 % ▼

 Messages

```
Msg 2627, Level 14, State 1, Line 1
Violation of PRIMARY KEY constraint 'PK__Ti_Docto_F3993564C15FBA72'. Cannot insert duplicate key in object 'dbo.Ti_Doctor'. The duplicate key value is (100).
The statement has been terminated.

Completion time: 2021-02-19T16:06:44.8696614+05:30
```

The screenshot shows a SQL query window with the following text:

```
INSERT INTO dbo.T1_Doctor
VALUES(NULL, 'AMAR', 'RJ', 'MBBS', 0123456789);
```

The Messages pane at the bottom displays the following error:

Msg 515, Level 16, State 2, Line 1  
Cannot insert the value NULL into column 'doctor\_id', table 'Hospital1.dbo.T1\_Doctor'; column does not allow nulls. INSERT fails.  
The statement has been terminated.

Completion time: 2021-02-19T16:19:38.1084952+05:30

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

The screenshot shows a SQL query window with the following text:

```
INSERT INTO dbo.T1_Patient
VALUES(141, 'JAY', 0123456789, 'MALE', 'UP', 'CANCER', 136, NULL);
```

The Messages pane at the bottom displays the following error:

Msg 547, Level 16, State 0, Line 1  
The INSERT statement conflicted with the FOREIGN KEY constraint "FK\_T1\_Patien\_docto\_2E1BDC42". The conflict occurred in database "Hospital", table "dbo.T1\_Doctor", column 'doctor\_id'.  
The statement has been terminated.

Completion time: 2021-02-19T16:37:54.2472231+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

The screenshot shows a SQL query window with the following text:

```
ALTER TABLE dbo.T1_Doctor
DROP COLUMN doctor_id
```

The Messages pane at the bottom displays the following error:

```
Msg 5074, Level 16, State 1, Line 1
The object 'FK_T1_Docto_F3993564C15FBAF2' is dependent on column 'doctor_id'.
Msg 5074, Level 16, State 1, Line 1
The object 'FK_T1_Patien_docto_2E1BDC42' is dependent on column 'doctor_id'.
Msg 4922, Level 16, State 9, Line 1
ALTER TABLE DROP COLUMN doctor_id failed because one or more objects access this column.
Completion time: 2021-02-19T16:40:49.0013106+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.

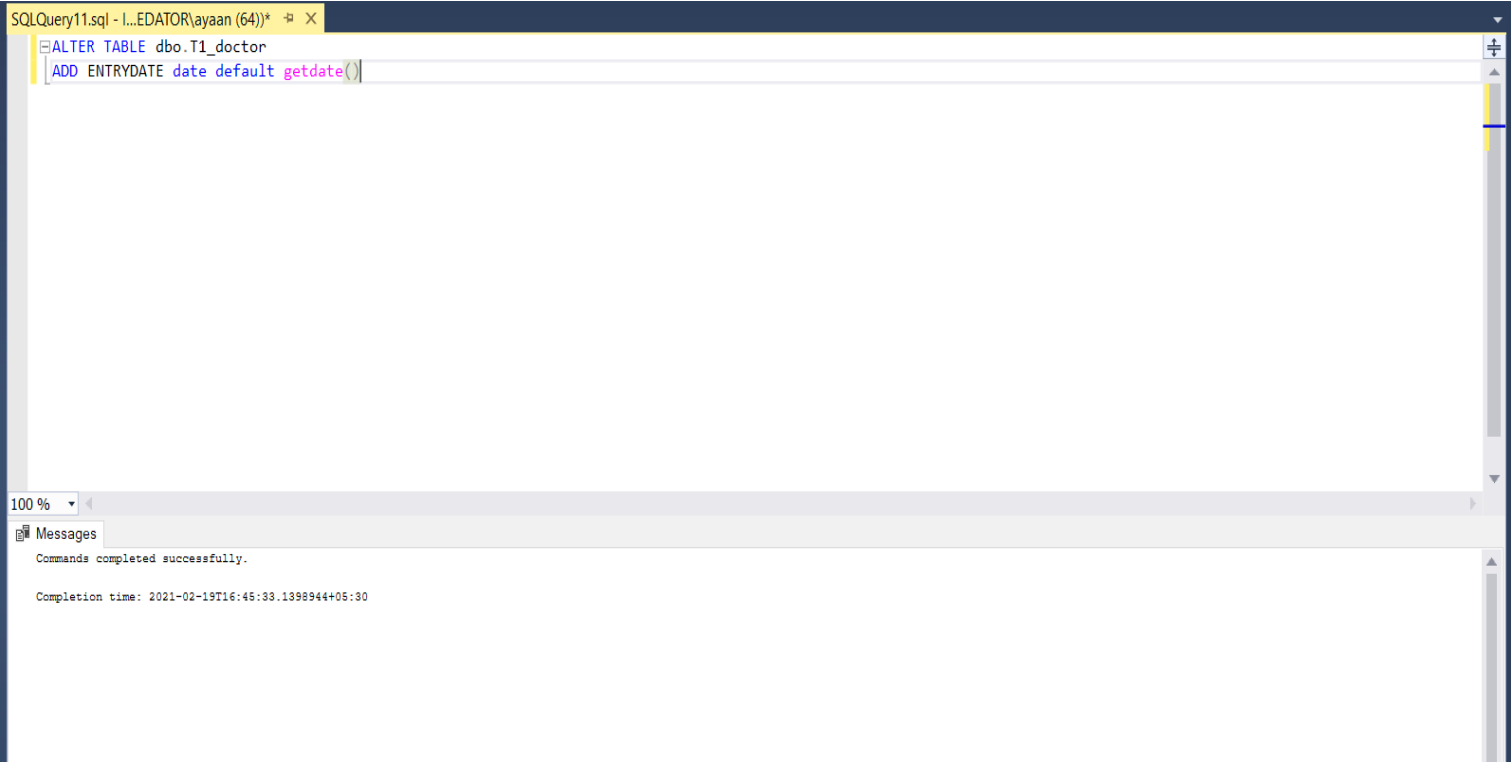
The screenshot shows a SQL query window with the following text:

```
UPDATE T1_Doctor
SET doctor_name = 'AYAAN'
where doctor_id = 1;
```

The Messages pane at the bottom displays the following message:

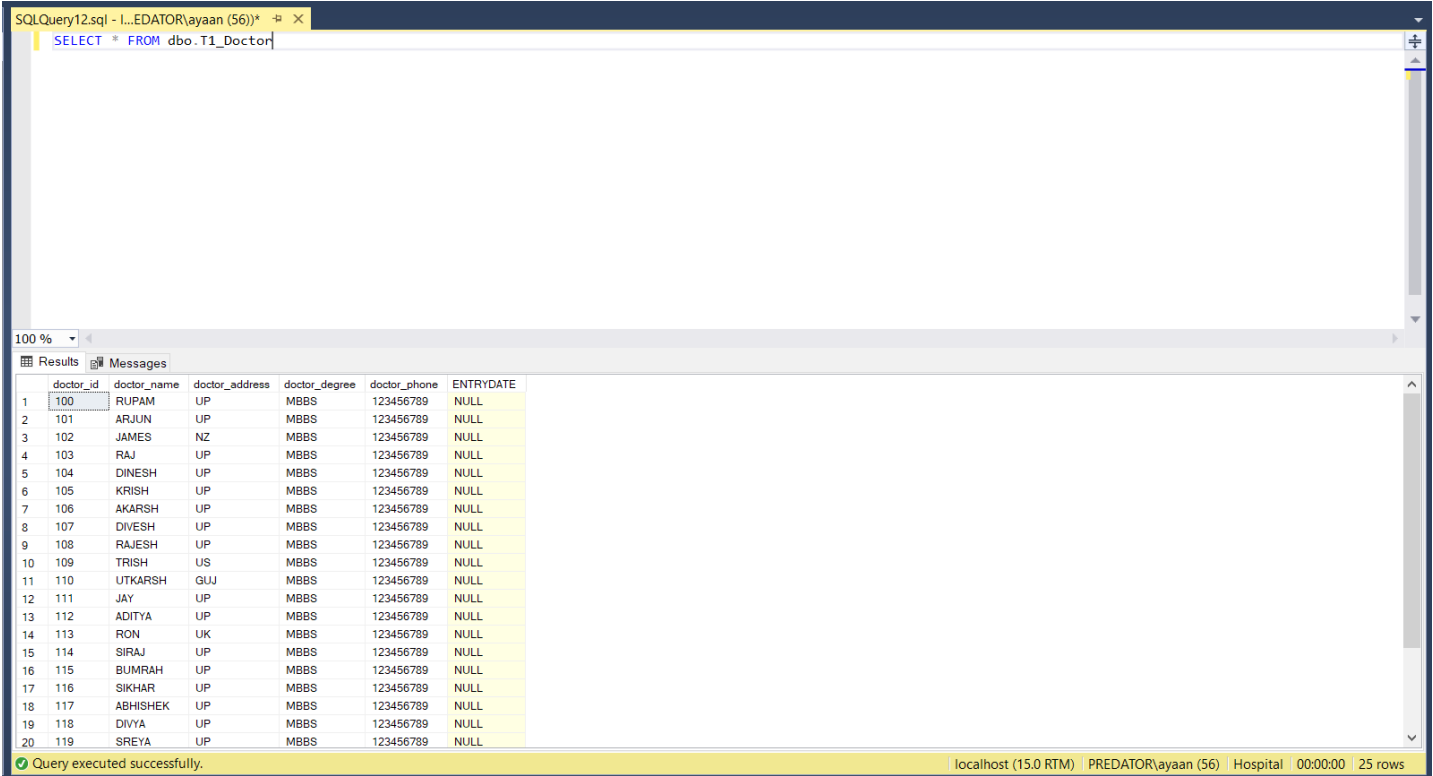
```
(0 rows affected)
Completion time: 2021-02-19T16:43:14.6807481+05:30
```

7. Add a column which has default value.



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

1.



2.

SQLQuery12.sql - I...EDATOR\ayaan (56))\* ✖

SELECT doctor\_id, doctor\_name FROM dbo.T1\_Doctor;

100 %

Results Messages

	doctor_id	doctor_name
4	106	AKARSH
5	128	AMAR
6	121	AMAR
7	101	ARJUN
8	115	BUMRAH
9	130	DINESH
10	104	DINESH
11	107	DIVESH
12	118	DIVYA
13	102	JAMES
14	111	JAY
15	105	KRISH
16	103	RAJ
17	108	RAJESH
18	113	RON
19	100	RUPAM
20	116	SIKHAR
21	114	SIRAJ
22	119	SREYA
23	109	TRISH

✔ Query executed successfully. localhost (15.0 RTM) | PREDATOR\ayaan (56) | Hospital | 00:00:00 25 rows

3.

SQLQuery12.sql - I...EDATOR\ayaan (56))\* ✖

SELECT doctor\_id, doctor\_name,doctor\_degree FROM dbo.T1\_Doctor where doctor\_degree= 'MBBS';

100 %

Results Messages

	doctor_id	doctor_name	doctor_degree
1	117	ABHISHEK	MBBS
2	112	ADITYA	MBBS
3	106	AKARSH	MBBS
4	101	ARJUN	MBBS
5	115	BUMRAH	MBBS
6	130	DINESH	MBBS
7	104	DINESH	MBBS
8	107	DIVESH	MBBS
9	118	DIVYA	MBBS
10	102	JAMES	MBBS
11	111	JAY	MBBS
12	105	KRISH	MBBS
13	103	RAJ	MBBS
14	108	RAJESH	MBBS
15	113	RON	MBBS
16	100	RUPAM	MBBS
17	116	SIKHAR	MBBS
18	114	SIRAJ	MBBS
19	119	SREYA	MBBS
20	109	TRISH	MBBS

✔ Query executed successfully. localhost (15.0 RTM) | PREDATOR\ayaan (56) | Hospital | 00:00:00 22 rows

4.

SQLQuery12.sql - I...EDATOR\ayaan (56))\* ✕

```
SELECT doctor_id, doctor_name, doctor_degree FROM dbo.T1_Doctor where doctor_id= 111;
```

100 %

Results Messages

	doctor_id	doctor_name	doctor_degree
1	111	JAY	MBBS

✓ Query executed successfully. localhost (15.0 RTM) | PREDATOR\ayaan (56) | Hospital | 00:00:00 | 1 rows

5.

SQLQuery12.sql - I...EDATOR\ayaan (56))\* ✕

```
SELECT TOP(10) [doctor_id], [doctor_name], [doctor_address] FROM dbo.T1_Doctor
```

100 %

Results Messages

	doctor_id	doctor_name	doctor_address
1	127	NULL	NULL
2	117	ABHISHEK	UP
3	112	ADITYA	UP
4	106	AKARSH	UP
5	128	AMAR	NULL
6	121	AMAR	RJ
7	101	ARJUN	UP
8	115	BUMRAH	UP
9	130	DINESH	RJ
10	104	DINESH	UP

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.



SQLQuery12.sql - I...EDATOR\ayaan (56))\*

```
UPDATE Ti_Patient
SET doctor_id = 90
where patient_id = 145;
```

100 %

Messages

Msg 547, Level 16, State 0, Line 1  
The UPDATE statement conflicted with the FOREIGN KEY constraint "FK\_Ti\_Patien\_docto\_2E1BDC42". The conflict occurred in database "Hospital", table "dbo.Ti\_Doctor", column 'doctor\_id'.  
The statement has been terminated.

Completion time: 2021-02-19T16:57:16.5345895+05:30

100 %

Query completed with errors.

localhost (15.0 RTM) | PREDATOR\ayaan (56) | Hospital | 00:00:00 | 0 rows