

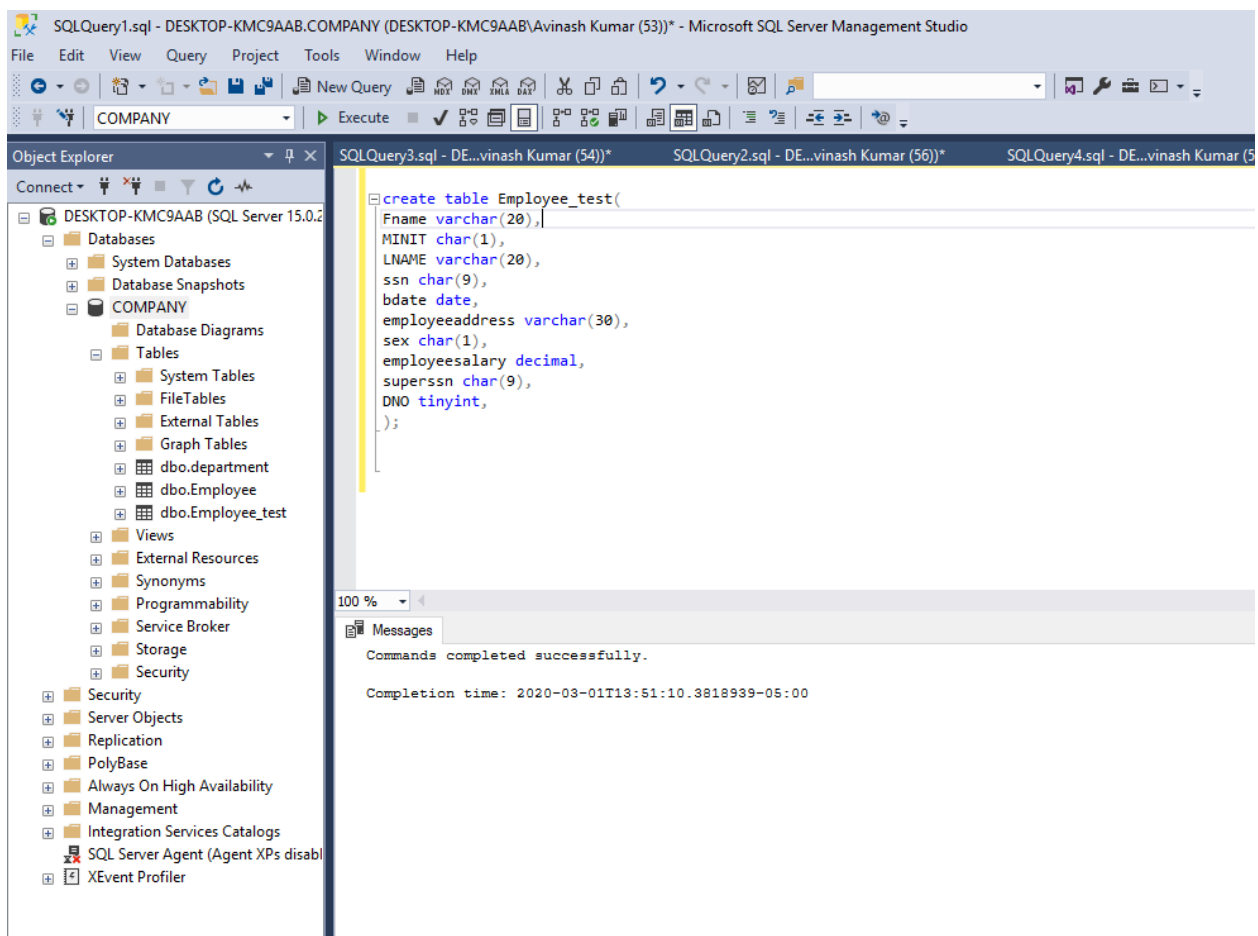
Name: LAVU MEGHA SRAVANI

CSU ID: 2762646

Description: Creating a database diagram, Creating FK or PK Constraints, Creating Tables using Microsoft SQL

1. Created Employee_test table without any constraints

```
create table Employee_test(  
Fname varchar(20),  
MINIT char(1),  
LNAME varchar(20),  
ssn char(9),  
bdate date,  
employeeaddress varchar(30),  
sex char(1),  
employeesalary decimal,  
superssn char(9),  
DNO tinyint,  
);
```



--- Inserting tuples

```
Insert into Employee_test values('John','B','Smith','123456789','09-Jan-55','731
Fondren,Houston,TX','M','30000','987654321','5');
Insert into Employee_test values('Franklin','T','Wong','333445555','08-Dec-45','638
Voss,Houston,TX','M','40000','888665555','5');
Insert into Employee_test values('Joyce','A','English','453453453','31-Jul-62','5631 Rice,
Houston,TX','F','25000','333445555','5');
Insert into Employee_test values('Ramesh','K','Narayan','666884444','15-Sep-52','975 Fire
Oak,Humble,TX','M','38000','333445555','5');
Insert into Employee_test values('James','E','Borg','888665555','10-Nov-27','450 Stone,Houston,
TX','M','55000',NULL,'1');
Insert into Employee_test values('Jennifer','S','Wallace','987654321','20-Jun-31','291
Berry,Bellarie,TX','F','43000','888665555','4');
Insert into Employee_test values('Ahmad','V','Jabbar','987987987','29-Mar-59','980 Dallas,
Houston,TX','M','25000','987654321','4');
Insert into Employee_test values('Alicia','J','Zelaya','999887777','19-Jul-58','3321 Castle,
SPring,TX','F','25000','987654321','4');
```

--- Inserting duplicate values

```
Insert into Employee_test values('John','A','Smith','123456789','09-Jan-55','731
Fondren,Houston,TX','M','30000','987654321','5');
Insert into Employee_test values('Franklin','T','Wong','123456789','08-Dec-45','638
Voss,Houston,TX','M','40000','888665555','5');
Insert into Employee_test values('Joyce','A','English',NULL,'31-Jul-62','5631 Rice,
Houston,TX','F','25000','333445555','5');
Insert into Employee_test values(NULL,'K',NULL,'666884444','15-Sep-52','975 Fire
Oak,Humble,TX','M','38000','333445555','5');
```

-- insert invalid data like "", all NULL values into a tuple

```
Insert into Employee_test
values(NULL,NULL,NULL,NULL,NULL,NULL,NULL,NULL,NULL);
Insert into Employee_test values("","",'999887777','19-Jul-58','3321 Castle,
SPring,TX','F','25000','987654321','4');
```

Lab Assignment 2_2

SS CHUNG

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'DESKTOP-KMC9AAB (SQL Server 15.0.2)'. The main query window contains the following SQL script:

```

--- Inserting tuples
Insert into Employee_test values('John','B','Smith','123456789','09-Jan-55','731 Fondren,Houston,TX','M','30000','987654321','5');
Insert into Employee_test values('Franklin','T','Wong','333445555','08-Dec-45','638 Voss,Houston,TX','M','40000','888665555','5');
Insert into Employee_test values('Joyce','A','English','453453453','31-Jul-62','5631 Rice, Houston,TX','F','25000','333445555','5');
Insert into Employee_test values('Ramesh','K','Narayan','666884444','15-Sep-52','975 Fire Oak,Humble,TX','M','38000','333445555','5');
Insert into Employee_test values('James','E','Borg','888665555','10-Nov-27','450 Stone,Houston, TX','M','55000',NULL,'1');
Insert into Employee_test values('Jennifer','S','Wallace','987654321','20-Jun-31','291 Berry,Bellarie,TX','F','43000','888665555','4');
Insert into Employee_test values('Ahmad','V','Jabbar','987987987','29-Mar-59','980 Dallas, Houston,TX','M','25000','987654321','4');
Insert into Employee_test values('Alicia','J','Zelaya','999887777','19-Jul-58','3321 Castle, SPring,TX','F','25000','987654321','4');

--- Inserting duplicate values
Insert into Employee_test values('John','A','Smith','123456789','09-Jan-55','731 Fondren,Houston,TX','M','30000','987654321','5');
Insert into Employee_test values('Franklin','T','Wong','123456789','08-Dec-45','638 Voss,Houston,TX','M','40000','888665555','5');
Insert into Employee_test values('Joyce','A','English',NULL,'31-Jul-62','5631 Rice, Houston,TX','F','25000','333445555','5');
Insert into Employee_test values(NULL,'K',NULL,'666884444','15-Sep-52','975 Fire Oak,Humble,TX','M','38000','333445555','5');

-- insert invalid data like '', all NULL values into a tuple
Insert into Employee_test values(NULL,NULL,NULL,NULL,NULL,NULL,NULL,NULL,NULL);
Insert into Employee_test values('',' ',' ','999887777','19-Jul-58','3321 Castle, SPring,TX','F','25000','987654321','4');

```

The Messages window at the bottom shows the execution results for each statement:

```

(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)

```

`select * from Employee_test;`

Lab Assignment 2_2

SS CHUNG

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'COMPANY'. The main window shows a query result for the 'Employee_test' table. The query is 'select * from Employee_test;'. The results are displayed in a grid with 14 rows and 10 columns: Fname, MINIT, LNAME, ssn, bdate, employeeaddress, sex, employeesalary, superssn, and DNO.

	Fname	MINIT	LNAME	ssn	bdate	employeeaddress	sex	employeesalary	superssn	DNO
1	John	B	Smith	123456789	1955-01-09	731 Fondren, Houston, TX	M	30000	987654321	5
2	Franklin	T	Wong	333445555	2045-12-08	638 Voss, Houston, TX	M	40000	888665555	5
3	Joyce	A	English	453453453	1962-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
4	Ramesh	K	Narayan	666884444	1952-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
5	James	E	Borg	888665555	2027-11-10	450 Stone, Houston, TX	M	55000	NULL	1
6	Jennifer	S	Wallace	987654321	2031-06-20	291 Berry, Bellare, TX	F	43000	888665555	4
7	Ahmad	V	Jabbar	987987987	1959-03-29	980 Dallas, Houston, TX	M	25000	987654321	4
8	Alicia	J	Zelaya	999887777	1958-07-19	3321 Castle, Spring, TX	F	25000	987654321	4
9	John	A	Smith	123456789	1955-01-09	731 Fondren, Houston, TX	M	30000	987654321	5
10	Franklin	T	Wong	123456789	2045-12-08	638 Voss, Houston, TX	M	40000	888665555	5
11	Joyce	A	English	NULL	1962-07-31	5631 Rice, Houston, TX	F	25000	333445555	5
12	NULL	K	NULL	666884444	1952-09-15	975 Fire Oak, Humble, TX	M	38000	333445555	5
13	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
14	NULL	NULL	NULL	999887777	1958-07-19	3321 Castle, Spring, TX	F	25000	987654321	4

Note: All values are inserted.

2. **drop TABLE** Employee_test;
using this query, I deleted the table Employee_test.

2-1) Relationships:

- WORKS_FOR
- MANAGES
- SUPERVISION
- WORKS_ON
- CONTROLS
- DEPENDENTS_OF

2-2)

-- Alter statements for PK and FK constraints for Employee and department Table

ALTER TABLE Employee **ADD PRIMARY KEY**(ssn),
FOREIGN KEY(superssn) **references** Employee(ssn);

ALTER TABLE department **ADD PRIMARY KEY**(Dnumber);

```
ALTER TABLE Employee ADD FOREIGN KEY(DNO) references department(Dnumber);
```

```
ALTER TABLE department ADD FOREIGN KEY(MGRssn) references Employee(ssn);
```

3. -- Creating Tables

```
CREATE TABLE DEPENDENT(  
  ESSN char(9) not NULL,  
  DEPENDENT_NAME varchar(20) not NULL,  
  SEX char(1),  
  BDATE DATE,  
  RELATIONSHIP varchar(15),  
  PRIMARY KEY(ESSN,DEPENDENT_NAME),  
  FOREIGN KEY(ESSN) references Employee(ssn),  
);
```

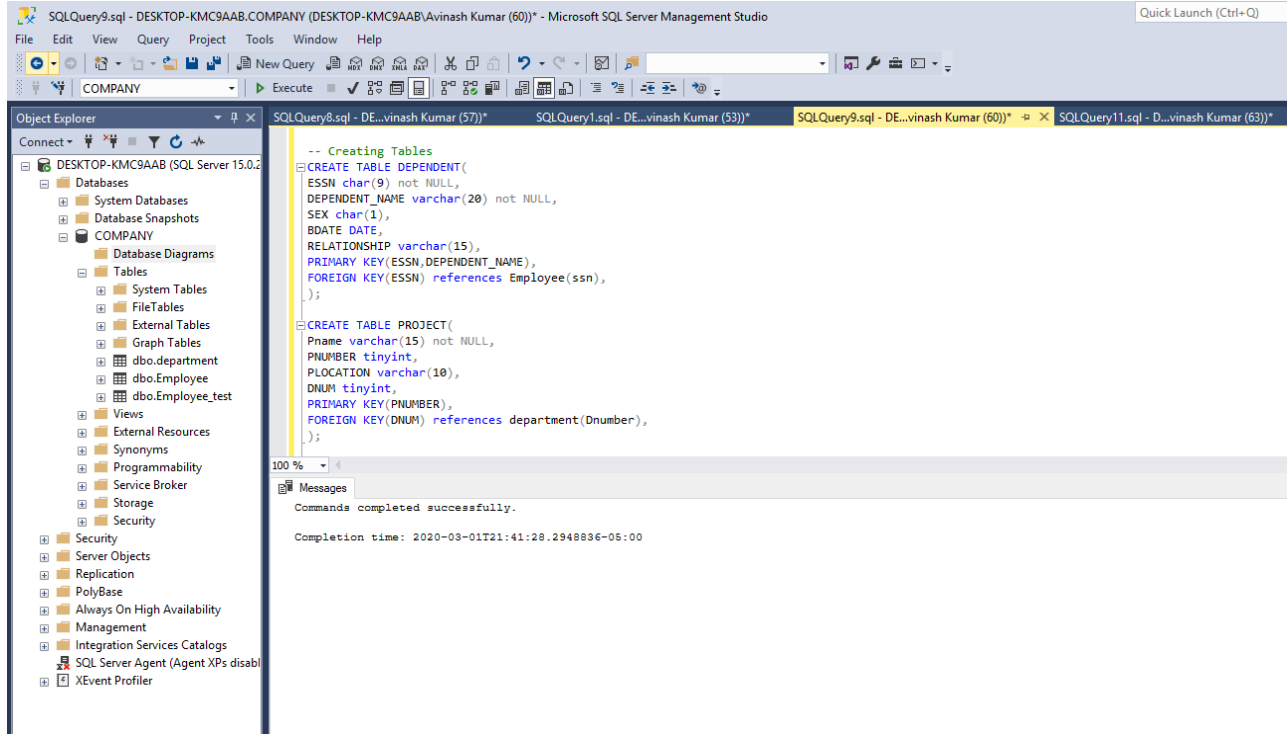
```
CREATE TABLE PROJECT(  
  Pname varchar(15) not NULL,  
  PNUMBER tinyint,  
  PLOCATION varchar(10),  
  DNUM tinyint,  
  PRIMARY KEY(PNUMBER),  
  FOREIGN KEY(DNUM) references department(Dnumber),  
);
```

```
CREATE TABLE DEPT_LOCATIONS(  
  DNUMBER tinyint not NULL,  
  DLOCATION varchar(10) not NULL,  
  PRIMARY KEY(DNUMBER,DLOCATION),  
  FOREIGN KEY(DNUMBER) references department(Dnumber),  
);
```

```
CREATE TABLE WORKS_ON(  
  ESSN char(9) not NULL,  
  PNO tinyint not NULL,  
  NHours decimal,  
  PRIMARY KEY(ESSN,PNO),  
  FOREIGN KEY(ESSN)references Employee(ssn),  
  FOREIGN KEY(PNO) references PROJECT(PNUMBER),  
);
```

Lab Assignment 2_2

SS CHUNG



-- Inserting values into the tables

```
Insert into DEPENDENT values ('123456789','Alice','F','31-Dec-78','Daughter');
Insert into DEPENDENT values ('123456789','Elizabeth','F','05-May-57','Spouse');
Insert into DEPENDENT values ('123456789','Michael','M','01-Jan-78','Son');
Insert into DEPENDENT values ('333445555','Alice','F','05-Apr-76','Daughter');
Insert into DEPENDENT values ('333445555','Joy','F','03-May-48','Spouse');
Insert into DEPENDENT values ('333445555','Theodore','M','25-Oct-73','Son');
Insert into DEPENDENT values ('987654321','Abner','M','29-Feb-32','Spouse');
```

```
Insert into DEPT_LOCATIONS values ('1','Houston');
Insert into DEPT_LOCATIONS values ('4','Stafford');
Insert into DEPT_LOCATIONS values ('5','Bellaire');
Insert into DEPT_LOCATIONS values ('5','Sugarland');
Insert into DEPT_LOCATIONS values ('5','Houston');
```

```
Insert into PROJECT values ('ProductX','1','Bellaire','5');
Insert into PROJECT values ('ProductY','2','Sugarland','5');
Insert into PROJECT values ('ProductZ','3','Houston','5');
Insert into PROJECT values ('Computerization','10','Stafford','4');
Insert into PROJECT values ('Reorganization','20','Houston','1');
Insert into PROJECT values ('Newbenefits','30','Stafford','4');
```

Lab Assignment 2_2

SS CHUNG

```

Insert into WORKS_ON values('123456789','1','32.5');
Insert into WORKS_ON values('123456789','2','7.5');
Insert into WORKS_ON values('333445555','2','10');
Insert into WORKS_ON values('333445555','3','10');
Insert into WORKS_ON values('333445555','10','10');
Insert into WORKS_ON values('333445555','20','10');
Insert into WORKS_ON values('453453453','1','20');
Insert into WORKS_ON values('453453453','2','20');
Insert into WORKS_ON values('666884444','3','40');
Insert into WORKS_ON values('888665555','20',NULL);
Insert into WORKS_ON values('987654321','20','15');
Insert into WORKS_ON values('987654321','30','20');
Insert into WORKS_ON values('987987987','10','35');
Insert into WORKS_ON values('987987987','30','5');
Insert into WORKS_ON values('999887777','10','10');
Insert into WORKS_ON values('999887777','30','30');

```

The screenshot shows the Microsoft SQL Server Management Studio interface. The left pane displays the Object Explorer with the 'COMPANY' database selected. The central pane shows a SQL query window with the following text:

```

-- Inserting values into the tables
Insert into DEPENDENT values ('123456789','Alice','F','31-Dec-78','Daughter');
Insert into DEPENDENT values ('123456789','Elizabeth','F','05-May-57','Spouse');
Insert into DEPENDENT values ('123456789','Michael','M','01-Jan-78','Son');
Insert into DEPENDENT values ('333445555','Alice','F','05-Apr-76','Daughter');
Insert into DEPENDENT values ('333445555','Joy','F','03-May-48','Spouse');
Insert into DEPENDENT values ('333445555','Theodore','M','25-Oct-73','Son');
Insert into DEPENDENT values ('987654321','Abner','M','29-Feb-32','Spouse');

Insert into DEPT_LOCATIONS values ('1','Houston');
Insert into DEPT_LOCATIONS values ('4','Stafford');
Insert into DEPT_LOCATIONS values ('5','Bellaire');
Insert into DEPT_LOCATIONS values ('5','Sugarland');
Insert into DEPT_LOCATIONS values ('5','Houston');

Insert into PROJECT values ('ProductX','1','Bellaire','5');
Insert into PROJECT values ('ProductY','2','Sugarland','5');
Insert into PROJECT values ('ProductZ','3','Houston','5');
Insert into PROJECT values ('Computerization','10','Stafford','4');
Insert into PROJECT values ('Reorganization','20','Houston','1');

```

The bottom pane shows the Messages window with the following output:

```

(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
Completion time: 2020-03-01T21:46:25.0088923-05:00

```

Lab Assignment 2_2

SS CHUNG

```
select * from DEPENDENT;
select * from DEPT_LOCATIONS;
```

The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The left pane displays the 'Object Explorer' with the 'COMPANY' database selected. The central pane shows a query window with the following SQL code:

```
Insert into WORKS_ON values('987987987','30','5');
Insert into WORKS_ON values('999887777','10','10');
Insert into WORKS_ON values('999887777','30','30');

Drop table DEPENDENT;
Drop table DEPT_LOCATIONS;

Drop table WORKS_ON;

Drop table PROJECT;
select * from Employee;
select * from department;
select * from DEPENDENT;
select * from DEPT_LOCATIONS;
select * from PROJECT;
select * from WORKS_ON;

DROP TABLE Employee;
DROP TABLE department;
```

The bottom pane displays the 'Results' tab with a table containing 7 rows of data:

ESSN	DEPENDENT_NAME	SEX	BDATE	RELATIONSHIP
123456789	Alice	F	1978-12-31	Daughter
123456789	Elizabeth	F	1957-05-05	Spouse
123456789	Michael	M	1978-01-01	Son
333445555	Alice	F	1976-04-05	Daughter
333445555	Joy	F	2048-05-03	Spouse
333445555	Theodore	M	1973-10-25	Son
987654321	Abner	M	2032-02-29	Spouse

Below the first table, there is a second table with 5 rows of data:

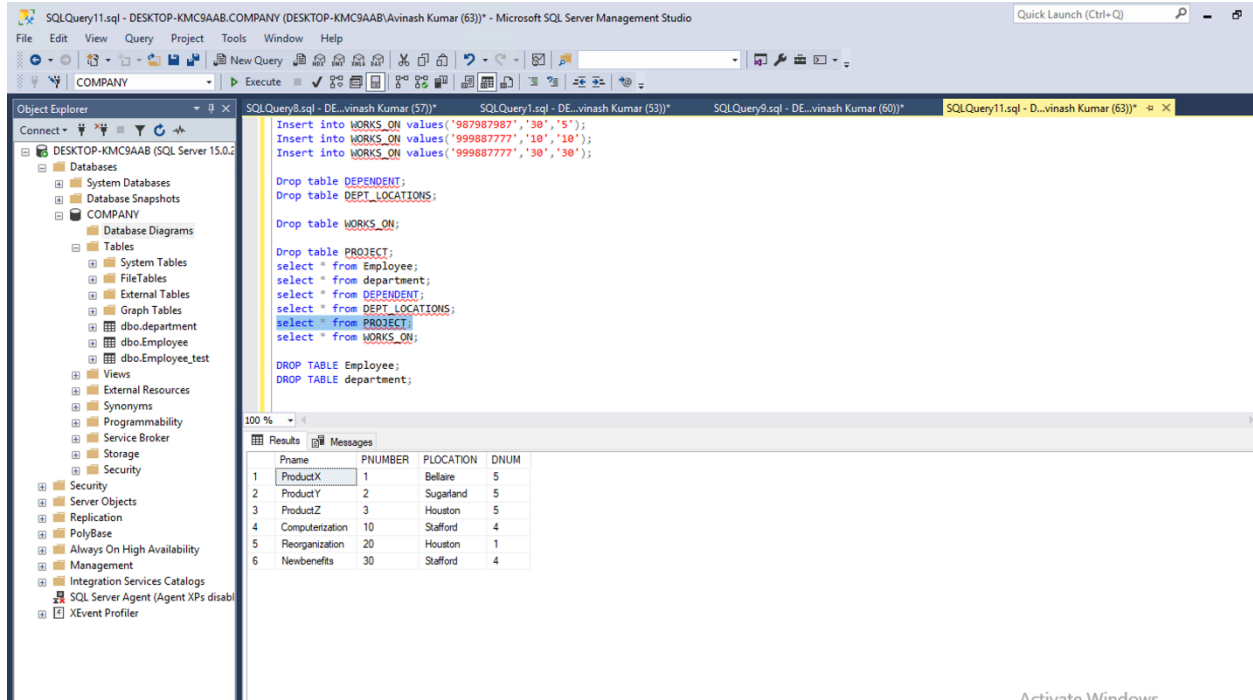
DNUMBER	DLOCATION
1	Houston
2	Stafford
3	Bellaire
4	Houston
5	Sugarland

Arshinto Yafindou

Lab Assignment 2_2

SS CHUNG

select * from PROJECT;



SQLQuery11.sql - DESKTOP-KMC9AAB.COMPANY (DESKTOP-KMC9AAB\Avinash Kumar (63)) - Microsoft SQL Server Management Studio

Object Explorer: DESKTOP-KMC9AAB (SQL Server 15.0.2) > Databases > COMPANY > Tables > dbo.Employee

```

Insert into WORKS_ON values('987987987','30','5');
Insert into WORKS_ON values('999887777','10','10');
Insert into WORKS_ON values('999887777','30','30');

Drop table DEPENDENT;
Drop table DEPT_LOCATIONS;

Drop table WORKS_ON;

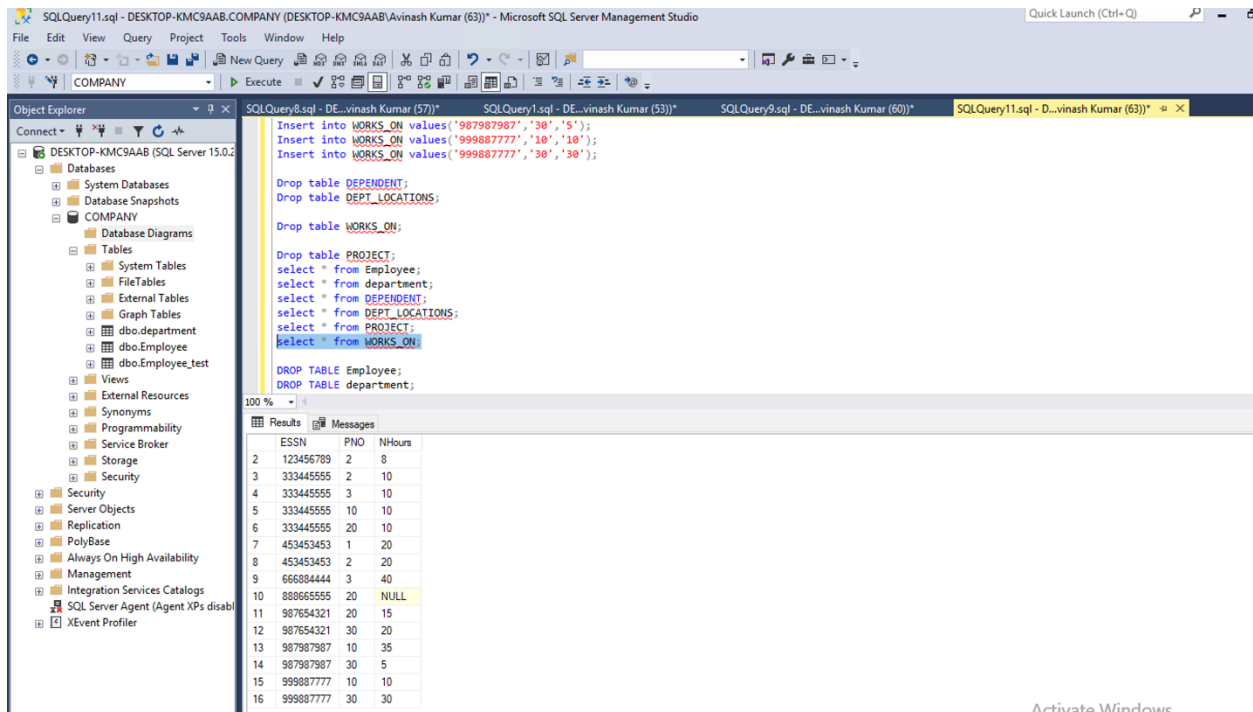
Drop table PROJECT;
select * from Employee;
select * from department;
select * from DEPENDENT;
select * from DEPT_LOCATIONS;
select * from PROJECT;
select * from WORKS_ON;

DROP TABLE Employee;
DROP TABLE department;
  
```

Results:

	Pname	PNUMBER	PLOCATION	DNUM
1	ProductX	1	Bellare	5
2	ProductY	2	Sugarland	5
3	ProductZ	3	Houston	5
4	Computerization	10	Stafford	4
5	Reorganization	20	Houston	1
6	Newbenefits	30	Stafford	4

select * from WORKS_ON;



SQLQuery11.sql - DESKTOP-KMC9AAB.COMPANY (DESKTOP-KMC9AAB\Avinash Kumar (63)) - Microsoft SQL Server Management Studio

Object Explorer: DESKTOP-KMC9AAB (SQL Server 15.0.2) > Databases > COMPANY > Tables > dbo.Employee

```

Insert into WORKS_ON values('987987987','30','5');
Insert into WORKS_ON values('999887777','10','10');
Insert into WORKS_ON values('999887777','30','30');

Drop table DEPENDENT;
Drop table DEPT_LOCATIONS;

Drop table WORKS_ON;

Drop table PROJECT;
select * from Employee;
select * from department;
select * from DEPENDENT;
select * from DEPT_LOCATIONS;
select * from PROJECT;
select * from WORKS_ON;

DROP TABLE Employee;
DROP TABLE department;
  
```

Results:

	ESSN	PNO	NHours
2	123456789	2	8
3	333445555	2	10
4	333445555	3	10
5	333445555	10	10
6	333445555	20	10
7	453453453	1	20
8	453453453	2	20
9	666884444	3	40
10	888665555	20	NULL
11	987654321	20	15
12	987654321	30	20
13	987987987	10	35
14	987987987	30	5
15	999887777	10	10
16	999887777	30	30

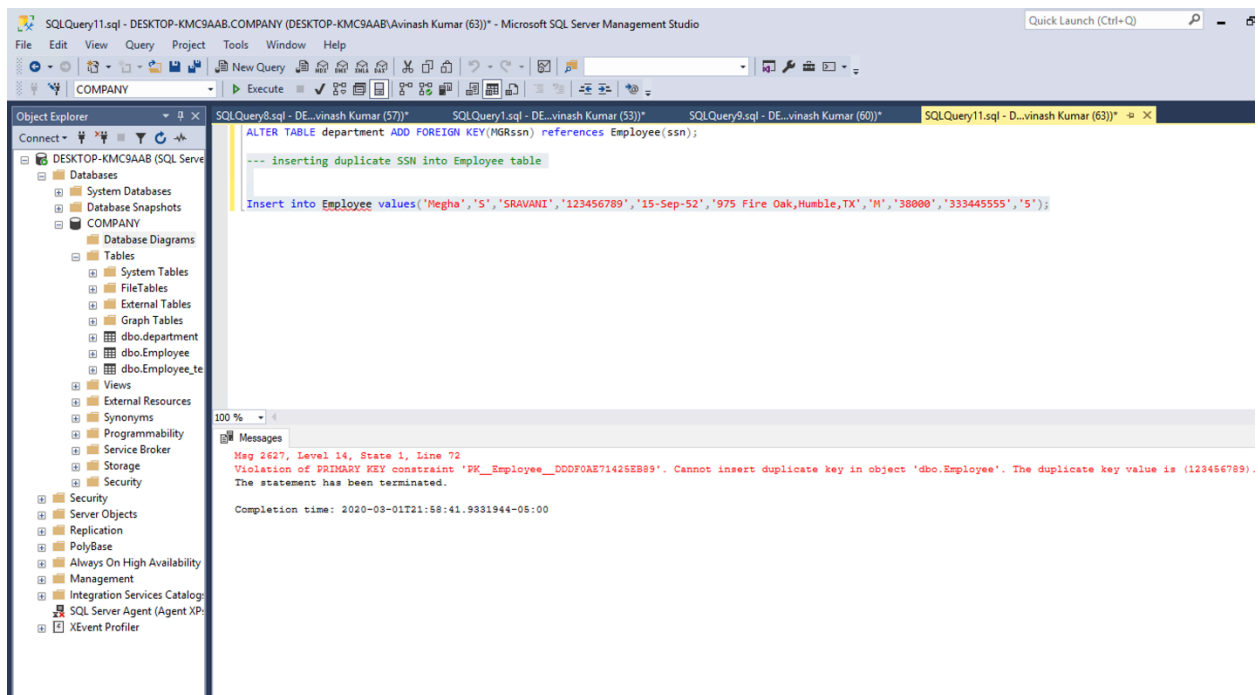
--- inserting same SSN value into Employee table

Insert into Employee values('Megha','S','SRAVANI','123456789','15-Sep-52','975 Fire Oak,Humble,TX','M','38000','333445555','5');

Output:

Msg 2627, Level 14, State 1, Line 72
Violation of PRIMARY KEY constraint 'PK__Employee__DDDF0AE71425EB89'. Cannot insert duplicate key in object 'dbo.Employee'. The duplicate key value is (123456789).
The statement has been terminated.

Completion time: 2020-03-01T21:58:41.9331944-05:00



-- inserting NULL values into Employee table

```
Insert into Employee values('Megha','S','SRAVANI',NULL,'15-Sep-52','975 Fire  
Oak,Humble,TX','M','38000','333445555','5');
```

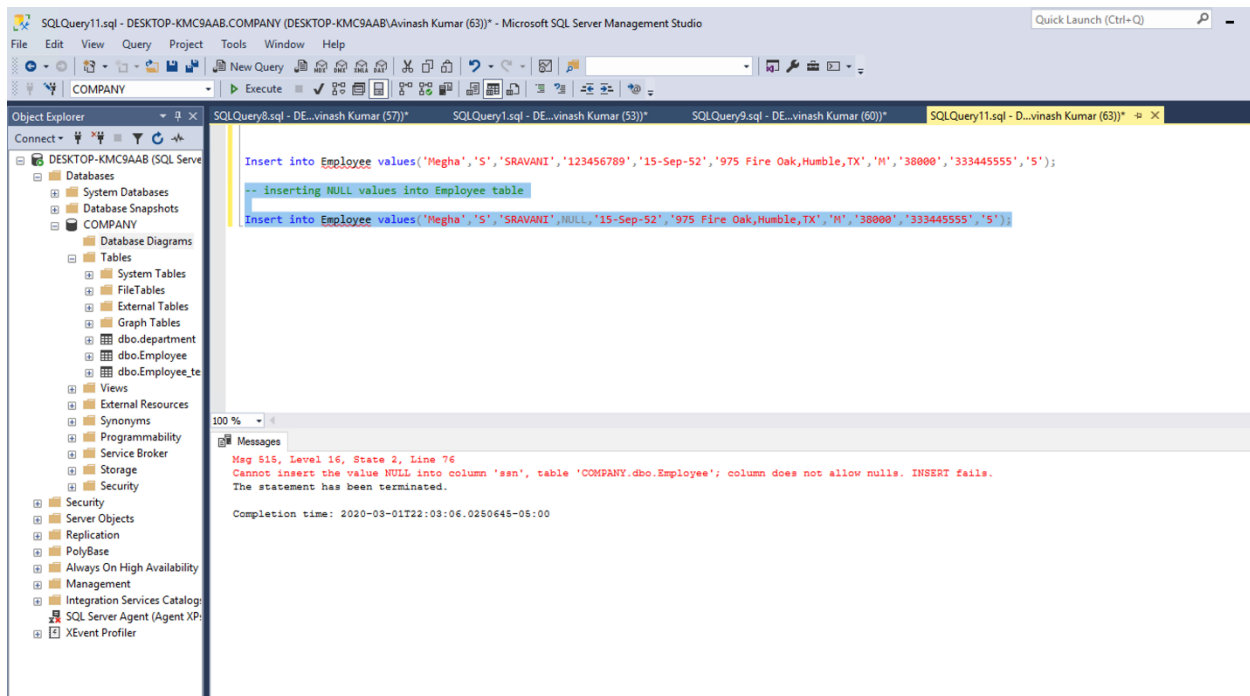
Output:

Msg 515, Level 16, State 2, Line 76

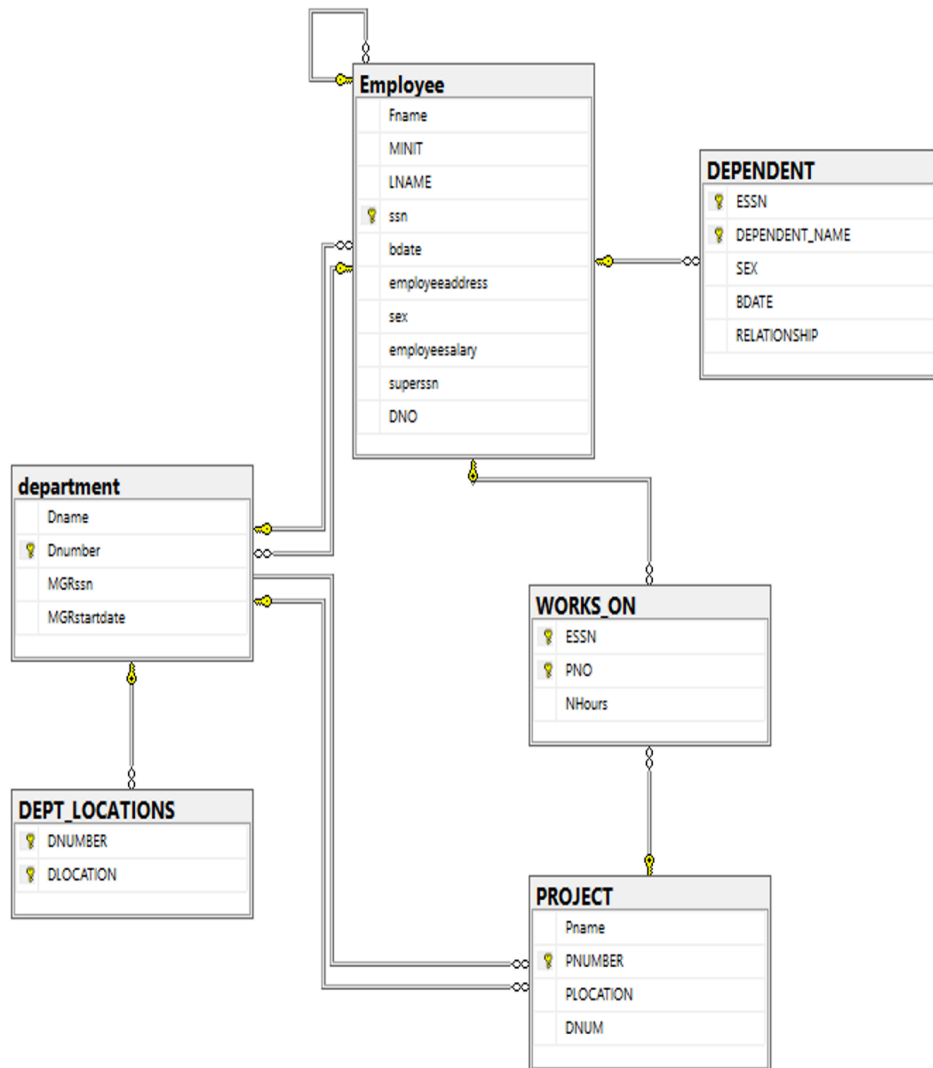
Cannot insert the value NULL into column 'ssn', table 'COMPANY.dbo.Employee'; column does not allow nulls. INSERT fails.

The statement has been terminated.

Completion time: 2020-03-01T22:03:06.0250645-05:00



3-2) Database Diagram:



Activate Windows
Go to Settings to activate Windows.