Student Name : Santosh Acharya

Sudent Id : c0930325

Program Code : CSD 2206

Assignment 3

Create the following table using a SQL Script;

1. Table Name **Students_{YourStudentID}** e.g Students_C0697697

Student_ID	Varchar(10)
FirstName	Varchar(50)
LastName	Varchar(100)
Telephone_Number	Varchar(10)
Age	int
City	Varchar(50)

2. Add a **Primary Key** Constraint to Student_ID
3. Add a **NOT NULL** Constraint to LastName
4. Add a **UNIQUE** Constraint to Telephone_Number
5. Add a **CHECK** Constraint to Age (> 18)
6. Add a **DEFAULT** Constraint to City (Default city ‘Toronto’)

Solution

- SQL is a standard language for accessing and manipulating database.
- Constraints are used to limit the type of data that can go into a table.
- There are two type of Constraints
  a. **Column Level Constraint** : - Column level constraints apply to a column.
  b. **Table Level Constraint** :- Table level constraints apply to the whole table
- ALTER is used to make the modification in the table after table is created.

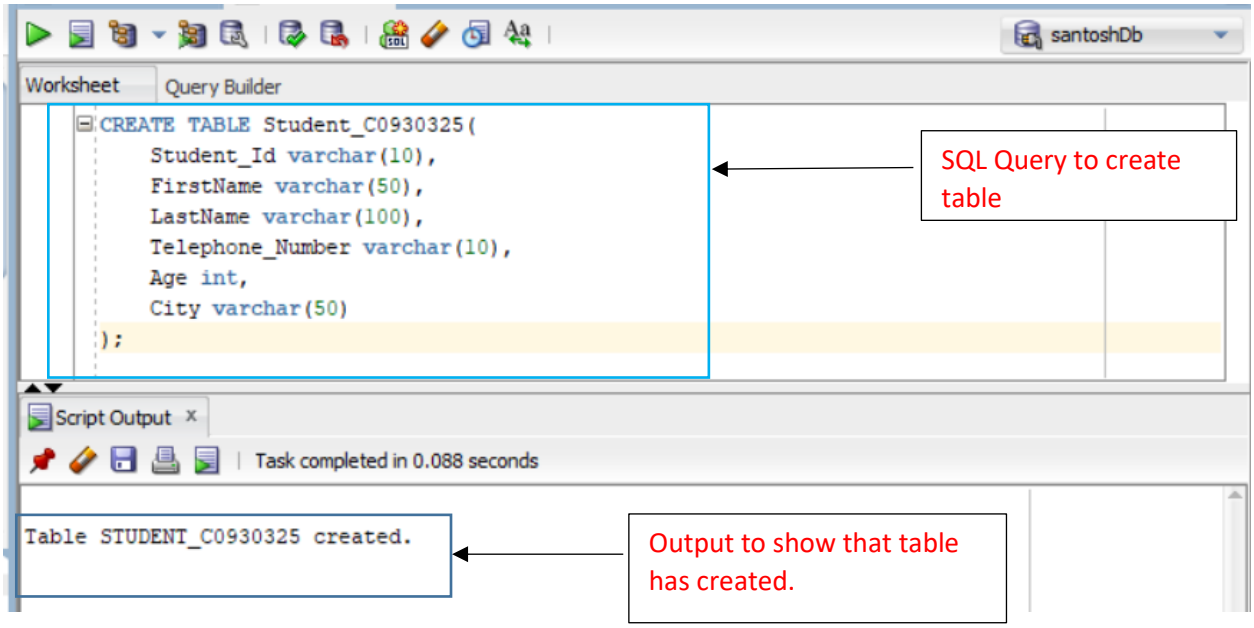
1. **Create the table**

   - Create Table is used to create a new table in a database.
   - The table name is Student_C0930325.
   - The Student_C0930325 contain following attributes.

Attributes	Datatype
Student_Id	Varchar(10)
FirstName	Varchar(50)
LastName	Varchar(100)
Telephone_Number	Varchar(10)
Age	int
City	Varchar(50)

   - SQL Query to create the table is
   - CREATE TABLE Student_C0930325 (
     - Student_Id varchar(10),
     - FirstName varchar(50),
     - LastName varchar(100),
     - Telephone_Number varchar(10),
     - Age int,
     - City varchar(50)

     );



2. Add the primary Key Constraint to the Student_Id

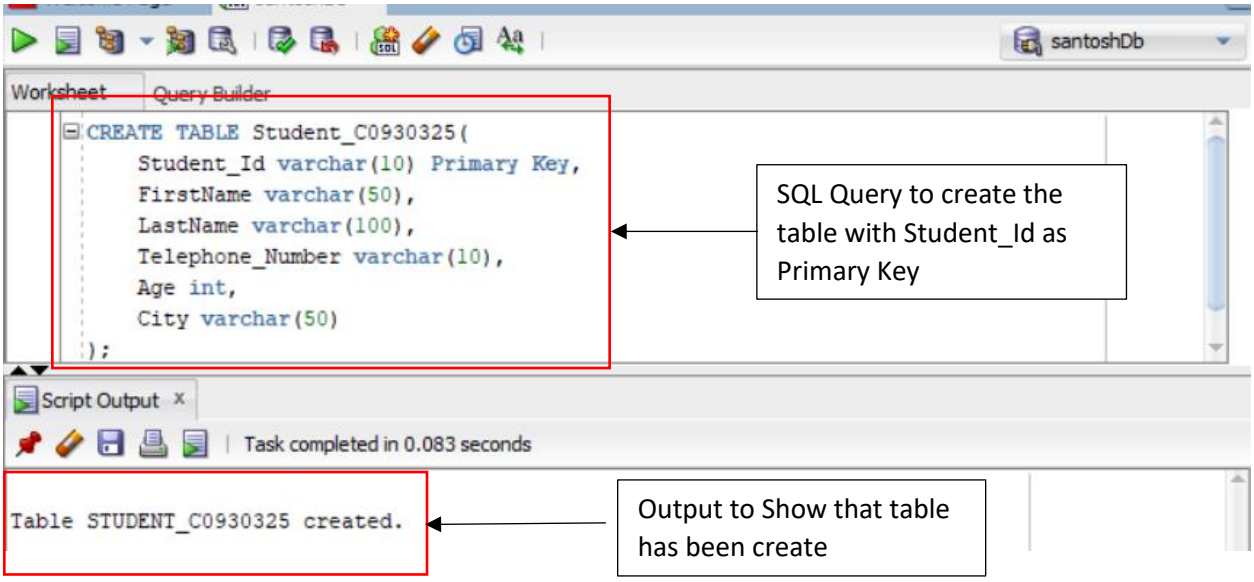
- Primary Key is the constraint used define the primary key in the table
- At the start table created was drop using Sql query

  Drop table Student_C0930325;

- To make the **Student_Id** Primary Key we use Column Level Constraint in the table.
- SQL Query to create the Student_Id as primary key is
- **Syntax**

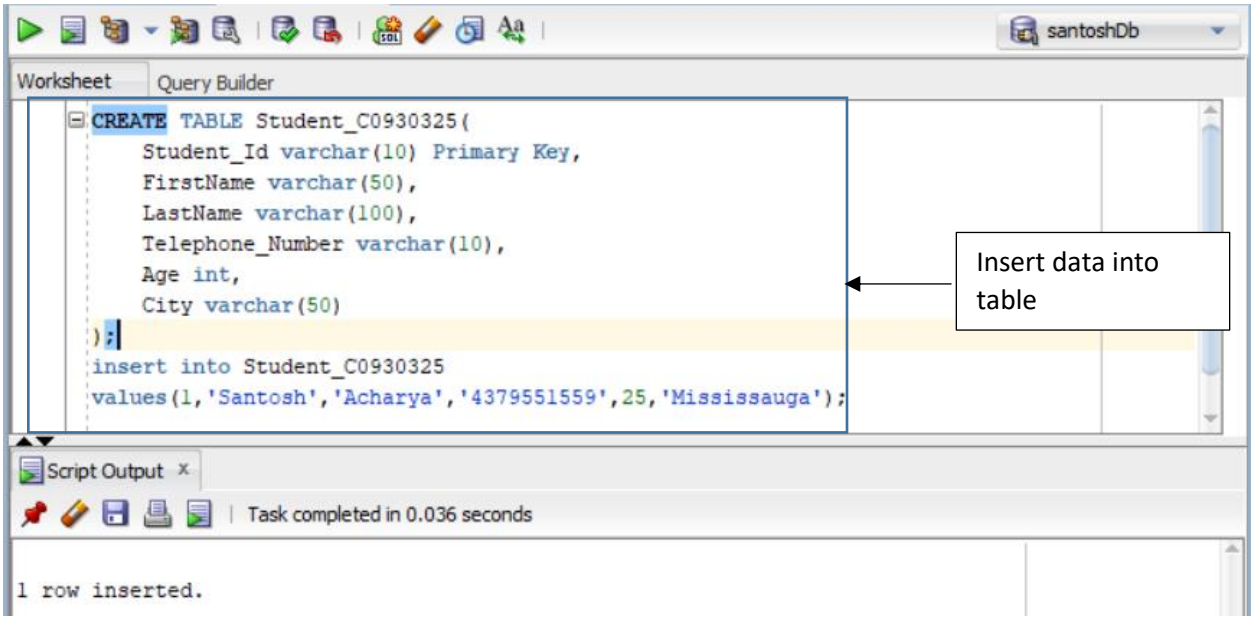
```
CREATE TABLE Student_C0930325 (
        Student_Id varchar(10) Primary Key,
        FirstName varchar(50),
        LastName varchar(100),
        Telephone_Number varchar(10),
        Age int,
        City varchar(50)

);
```



Inserting Data into Table

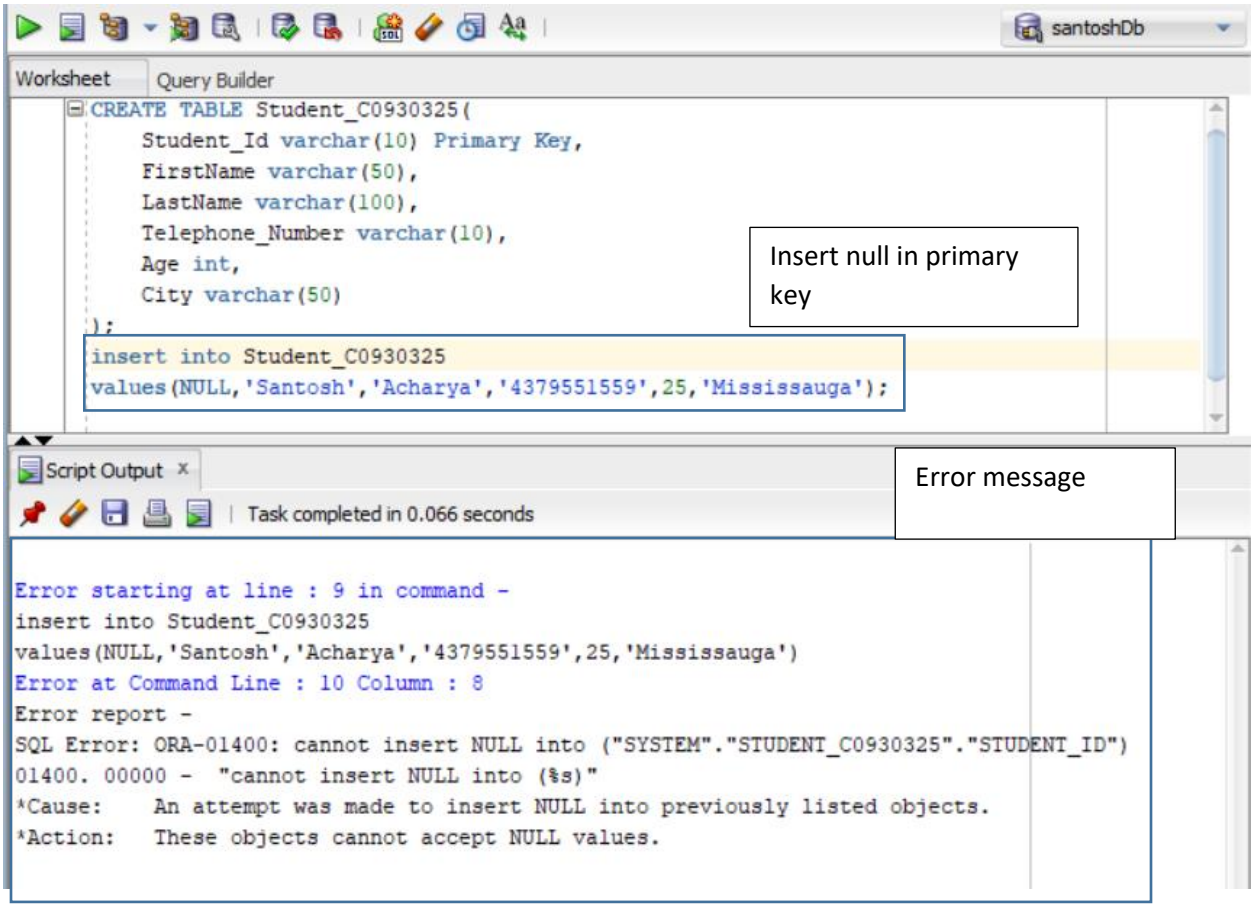
- To insert the data in the Student_C0930325 using SQL query.
  Insert into Student_C0930325
  Values(1,'Santosh','Acharya','4379551559',25,'Mississauga');



Displaying Error entry

- To insert the data in the Student_C0930325 using SQL query when enter the Null in primary key.
- It display the error message since primary key cannot null or repeated.

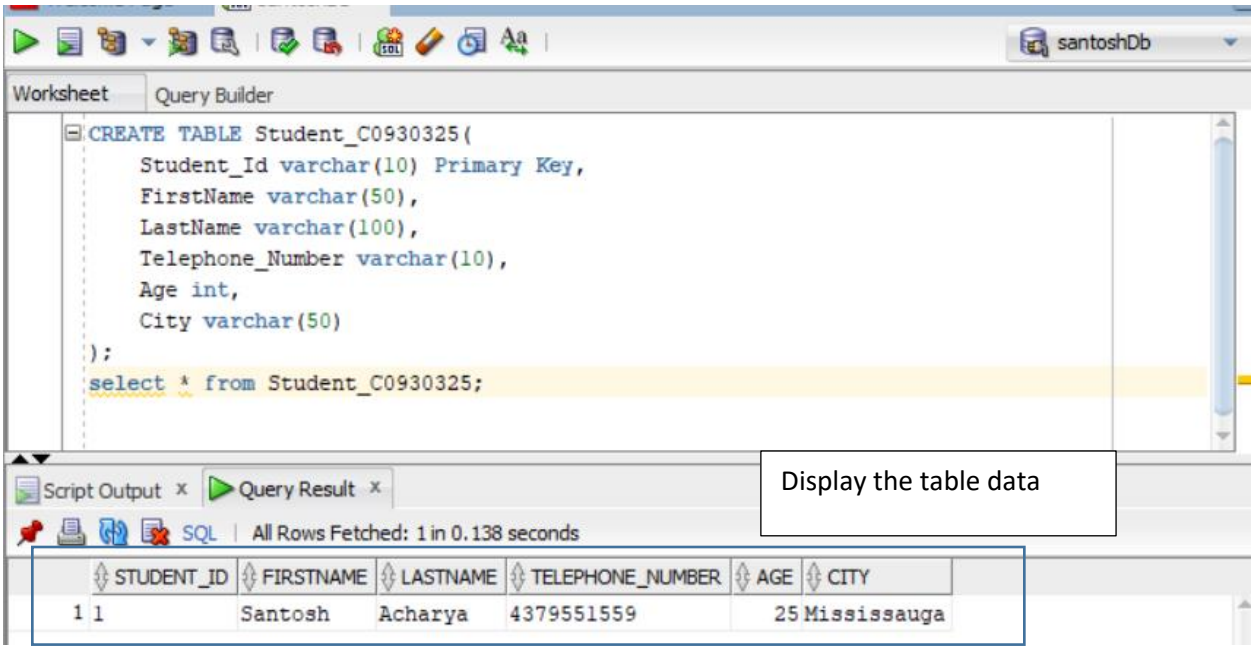
Insert into Student_C0930325
Values(1,'Santosh','Acharya','4379551559',25,'Mississauga');



View the data in the table

- To display the data from the Student_C0930325 we use SQL Query.

  Select * from Student_C0930325;



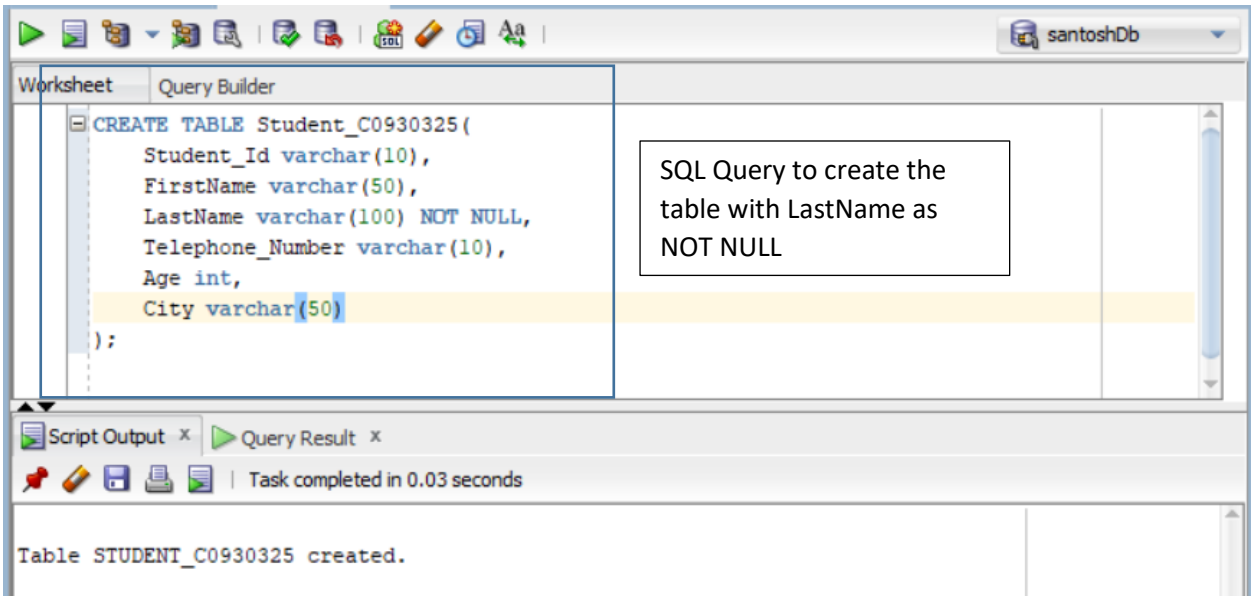
3. Add a NOT NULL Constraint in LastName

- NOT NULL is constraint used to define the column or attributes to be not null.
- At the start table created was drop using SQL query

  Drop table Student_C0930325;

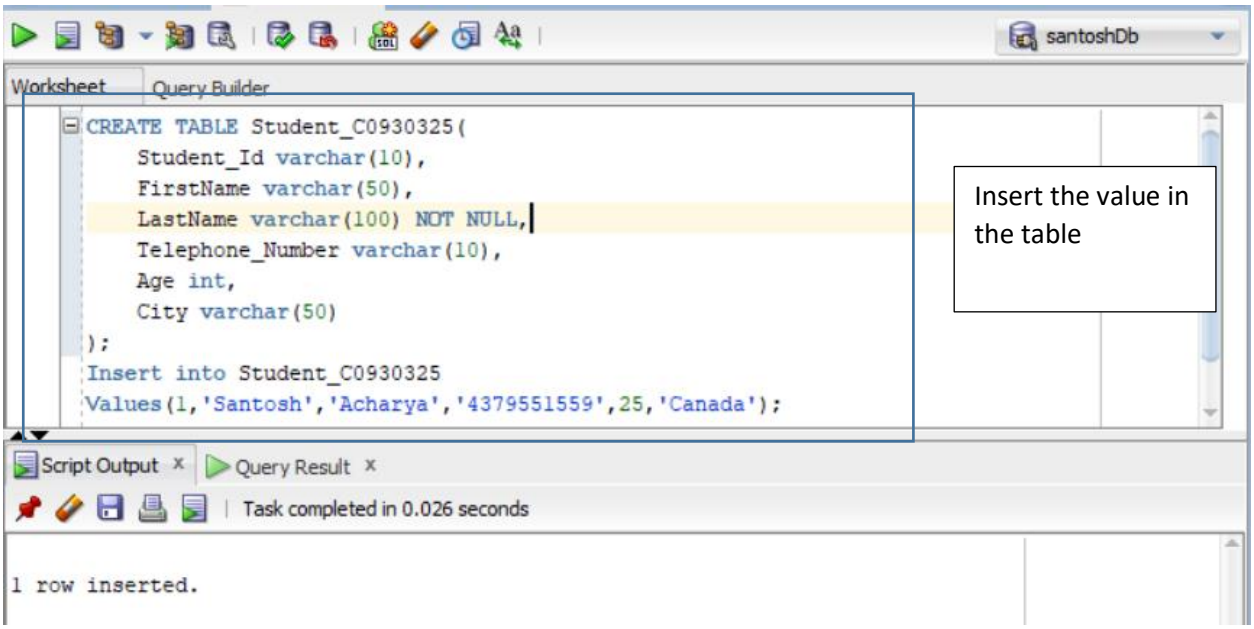
- To make the LastName NOT NULL Constraint we use Column Level Constraint in the table.
- **Syntax**

```
CREATE TABLE Student_C0930325 (
        Student_Id varchar(10) ,
        FirstName varchar(50),
        LastName varchar(100) NOT NULL,
        Telephone_Number varchar(10),
        Age int,
        City varchar(50)
);
```



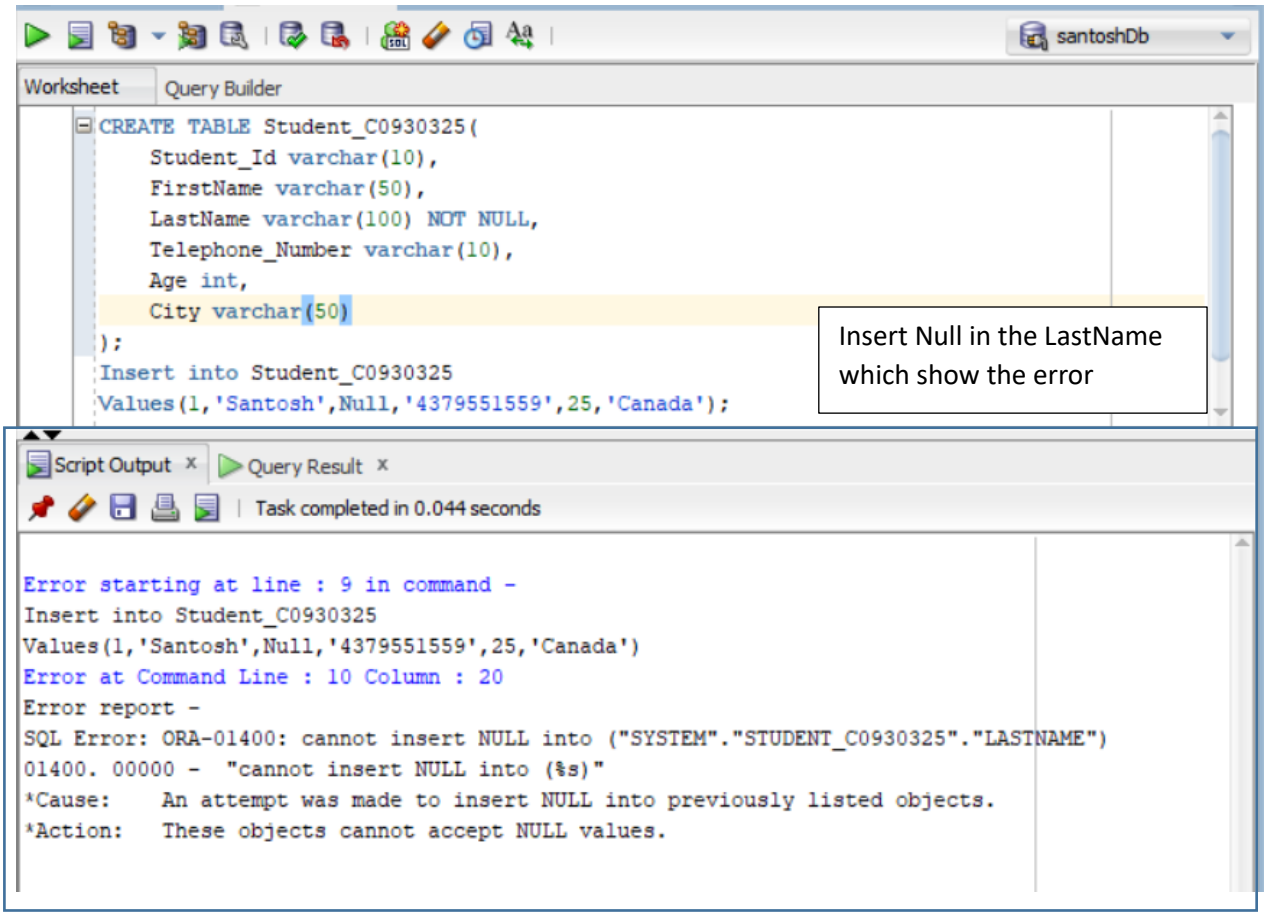
Inserting Data into Table

- To insert the data in the Student_C0930325 using SQL query.
  Insert into Student_C0930325
  Values(1,'Santosh','Acharya','4379551559',25,'Canada');



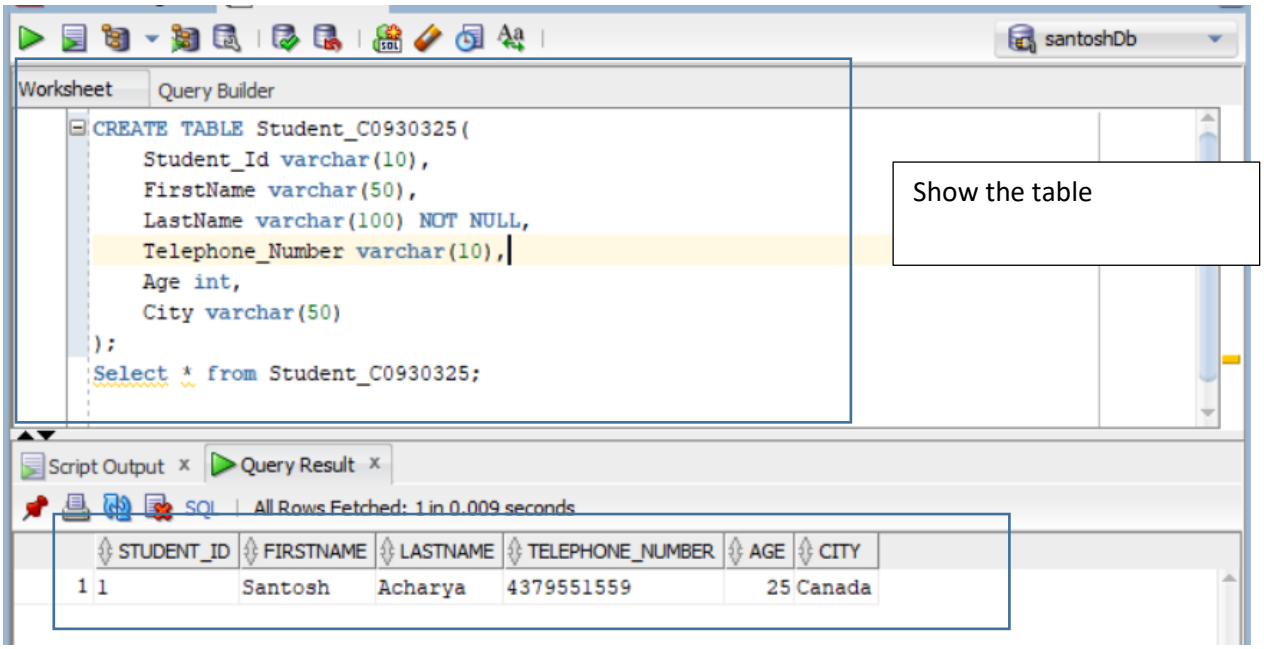
Displaying Error entry

- To insert the data in the Student_C0930325 using SQL query when enter the Null in NOT NULL value.
- It display the error message since NOT NULL cannot be null
  Insert into Student_C0930325
  Values(1,'Santosh',NULL,'4379551559',25,'Mississauga');



View the data in the table

- To display the data from the Student_C0930325 we use SQL Query.
  Select * from Student_C0930325;

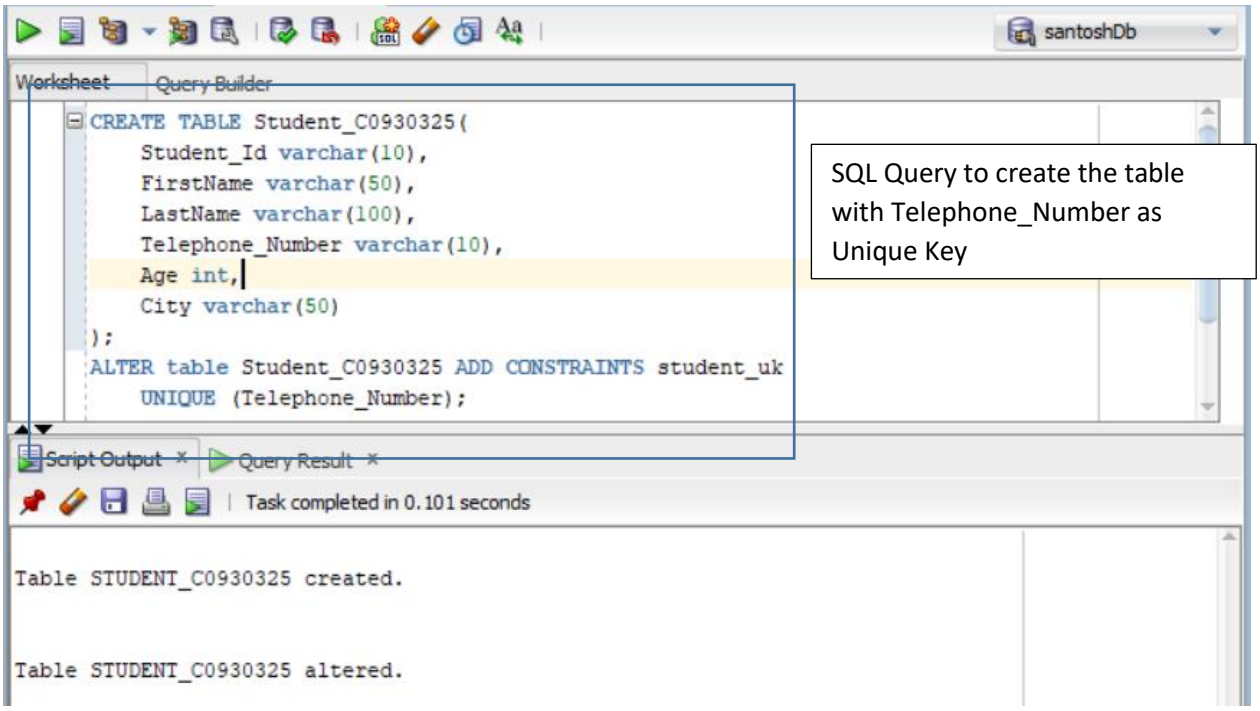


4. **Add a UNIQUE Constraint in Telephone_number**

- UNIQUE Key is the constraint that will allow only enter a value for one and don't allow to repeat the same value in the table.
- At the start table created was drop using Sql query
  Drop table Student_C0930325;
- To make the Telephone_Number Constraint we use Table Level Constraint in the table.
- SQL Query to create the Telephone_Number as unique is

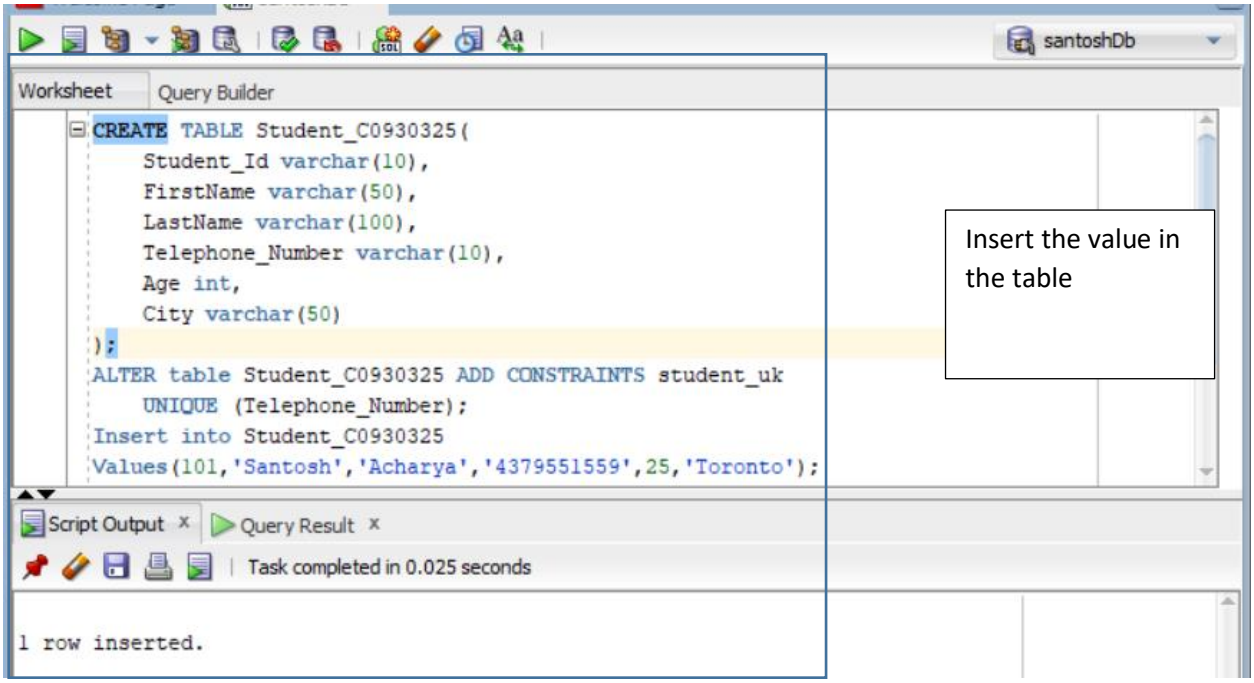
```
CREATE TABLE Student_C0930325 (
        Student_Id varchar(10),
        FirstName varchar(50),
        LastName varchar(100),
        Telephone_Number varchar(10),
        Age int,
        City varchar(50)

);
ALTER table Student_C0930325
        ADD CONSTRAINTS student_uk
        UNIQUE (Telephone_Number);
```



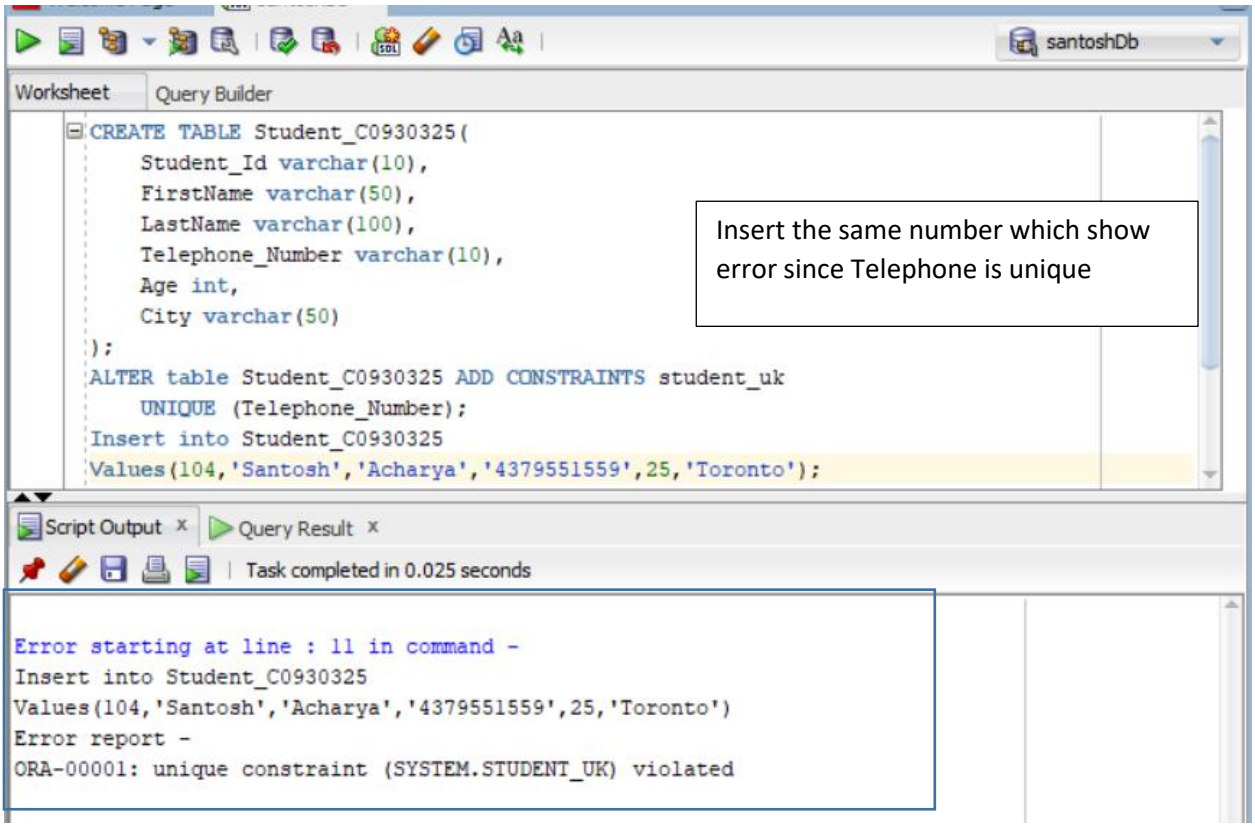
Inserting Data into Table

- To insert the data in the Student_C0930325 using SQL query.
  Insert into Student_C0930325
  Values(101,'Santosh','Acharya','4379551559',25,'Toronto');



Displaying Error entry

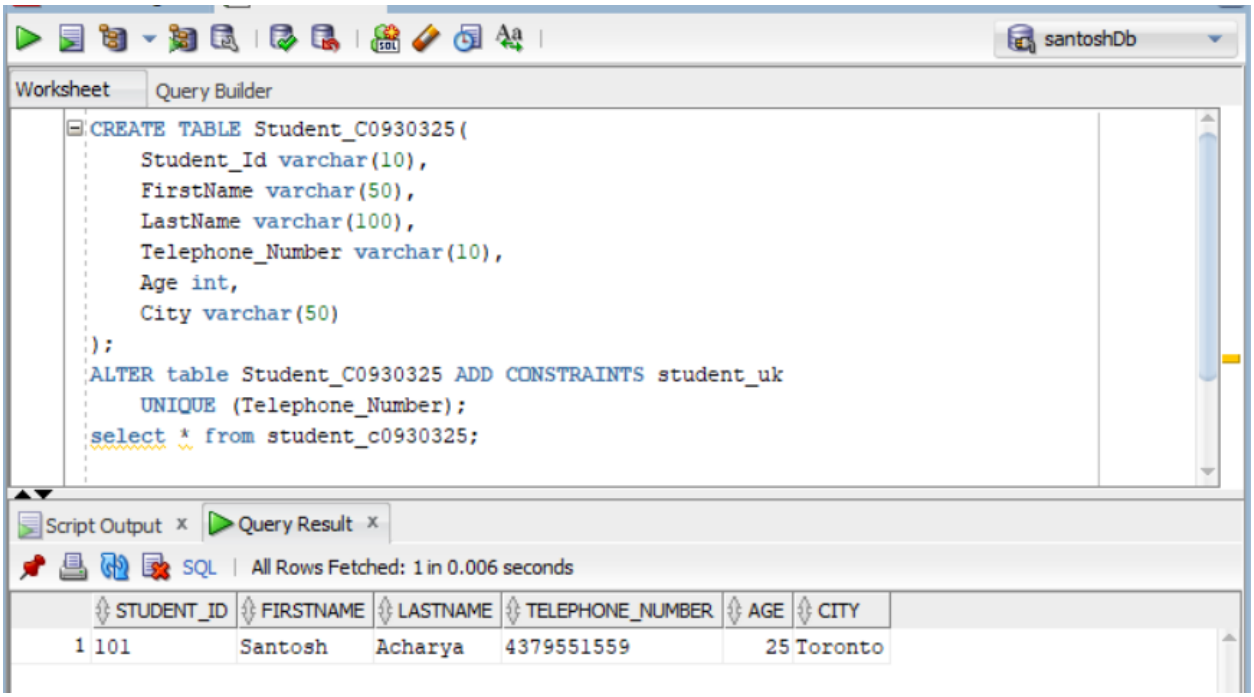
- To insert the data in the Student_C0930325 using SQL query when enter the same number twice in the database which as UNIQUE Key constraint can't be same.
  Insert into Student_C0930325
  Values(104,'Shayam','Sunder','**4379551559**',25,'Canada');



View the data in the table

- To display the data from the Student_C0930325 we use SQL Query.

Select * from Student_C0930325;



5. **Add a CHECK Constraint in Age**

At the start table created was drop using Sql query.

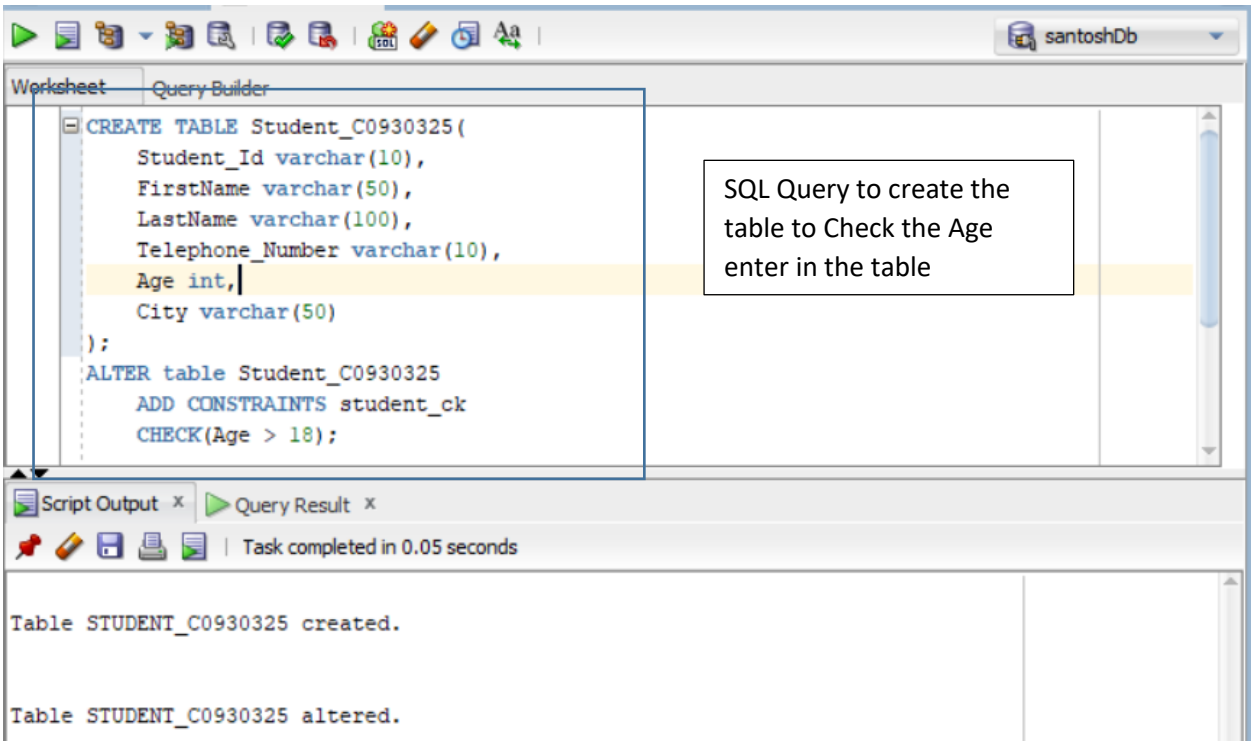
Drop table Student_C0930325;

To make the Age Constraint we use Table Level Constraint in the table.

SQL Query to create the Telephone_Number as unique is

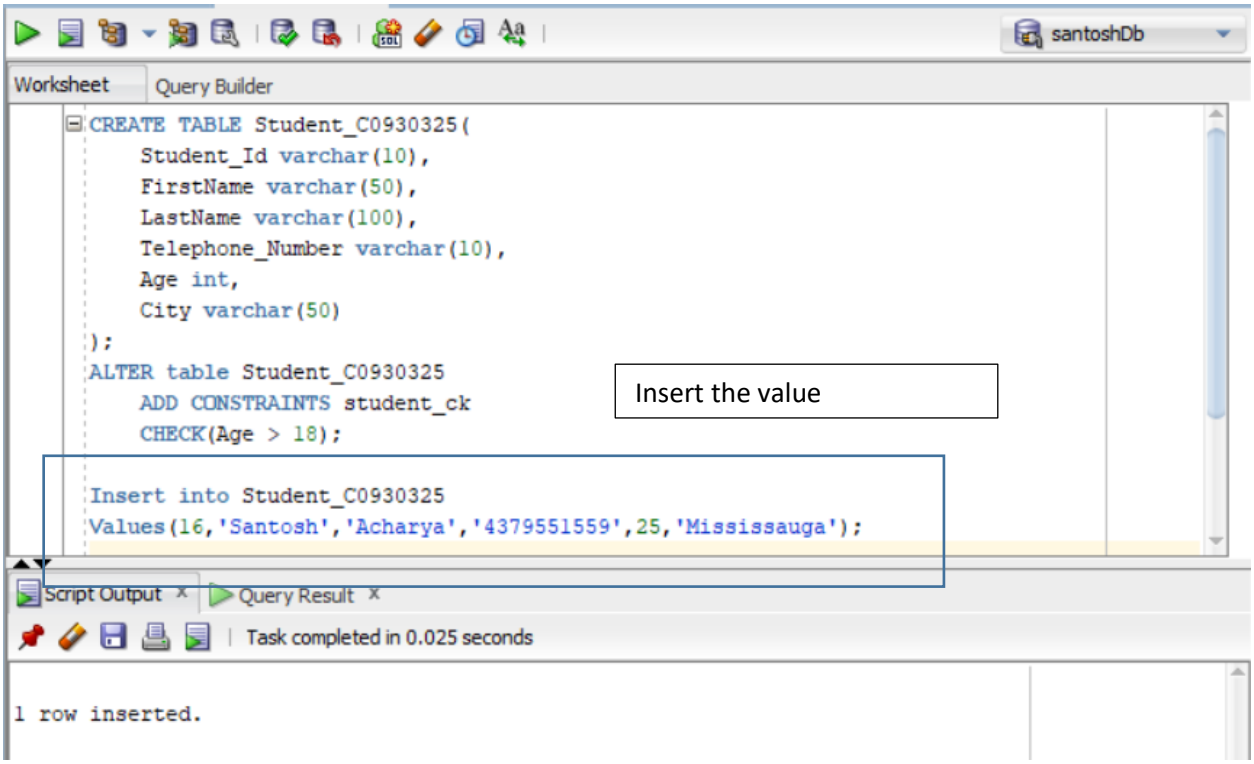
```
CREATE TABLE Student_C0930325 (
        Student_Id varchar(10),
        FirstName varchar(50),
        LastName varchar(100),
        Telephone_Number varchar(10),
        Age int,
        City varchar(50)

);
ALTER table Student_C0930325
        ADD CONSTRAINTS student_ck
        CHECK(Age > 18);
```



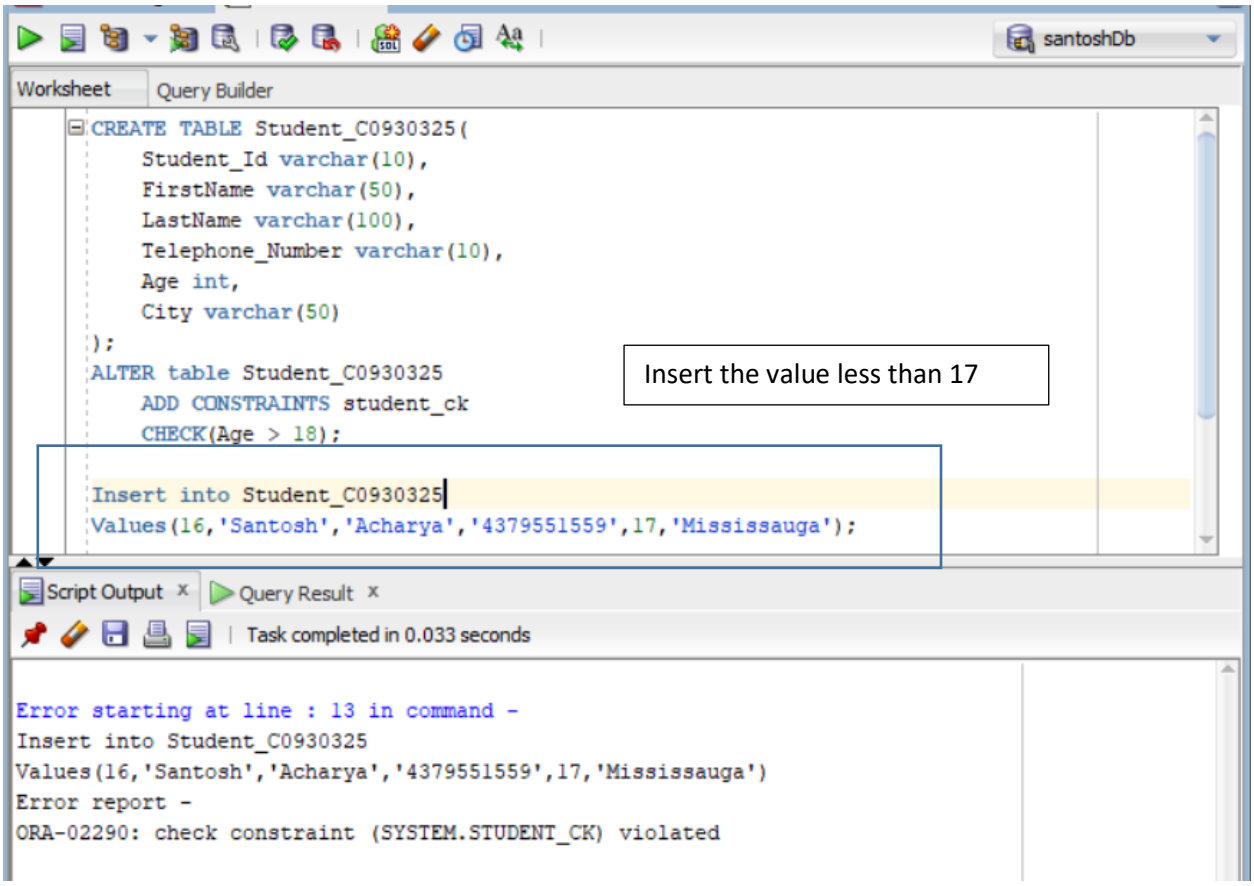
Inserting Data into Table

- To insert the data in the Student_C0930325 using SQL query.
  Insert into Student_C0930325
  Values(16,'Santosh','Acharya','4379551559',25,'Mississauga');



Displaying Error entry

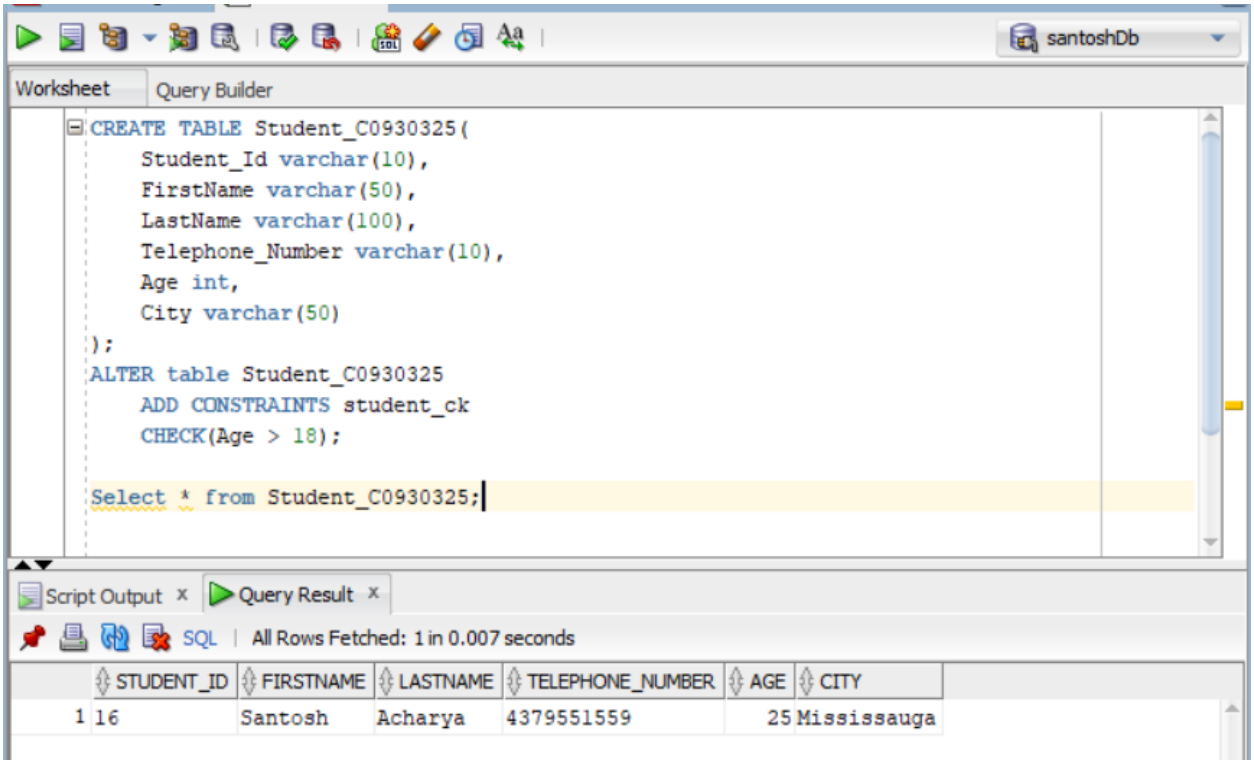
- To insert the data in the Student_C0930325 using SQL query when CHECK is used to validate the data entry.
- Since 17 is less than 18 error is displayed.
  Insert into Student_C0930325
  Values(16,'Santosh','Acharya','4379551559',17,'Mississauga');



View the data in the table

- To display the data from the Student_C0930325 we use SQL Query.

  Select * from Student_C0930325;



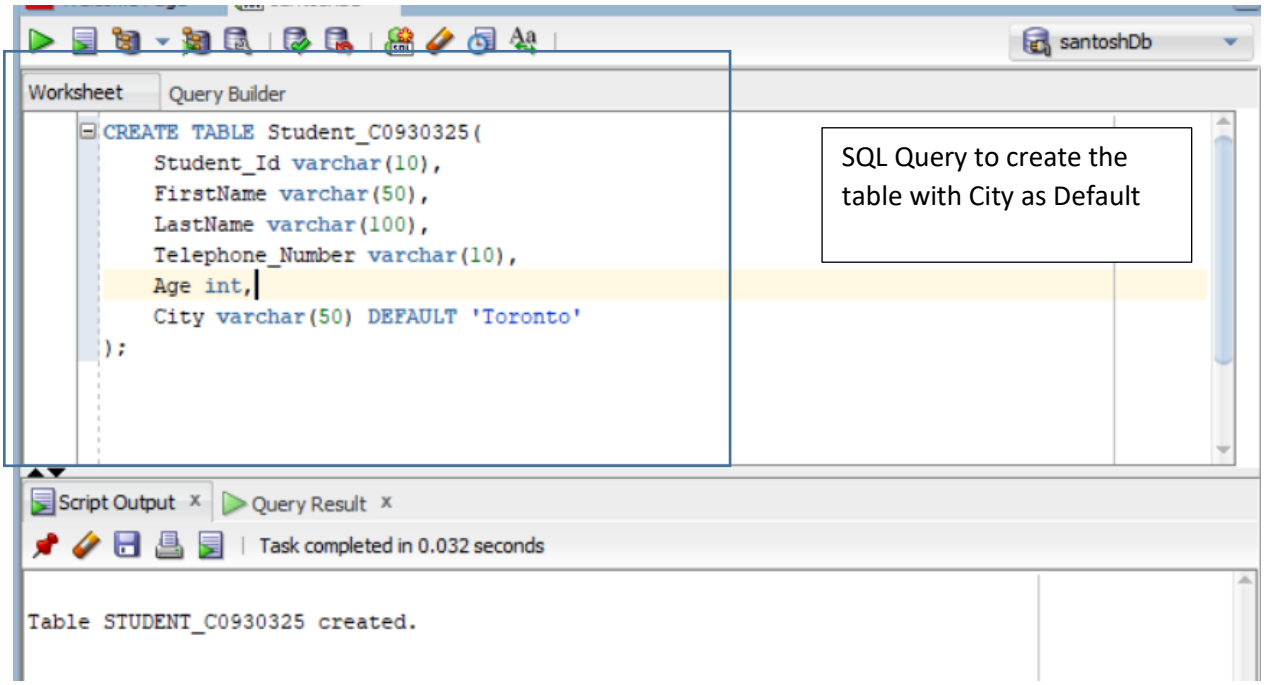
6. Add DEFAULT Constraint in City

- DEFAULT is use to make the value assigned at the starting, if value is not enter then it will be assigned automatically.
- At the start table created was drop using Sql query
  Drop table Student_C0930325;

- To make the City as Constraint we use Column Level Constraint in the table.
- SQL Query to create the Telephone_Number as unique is

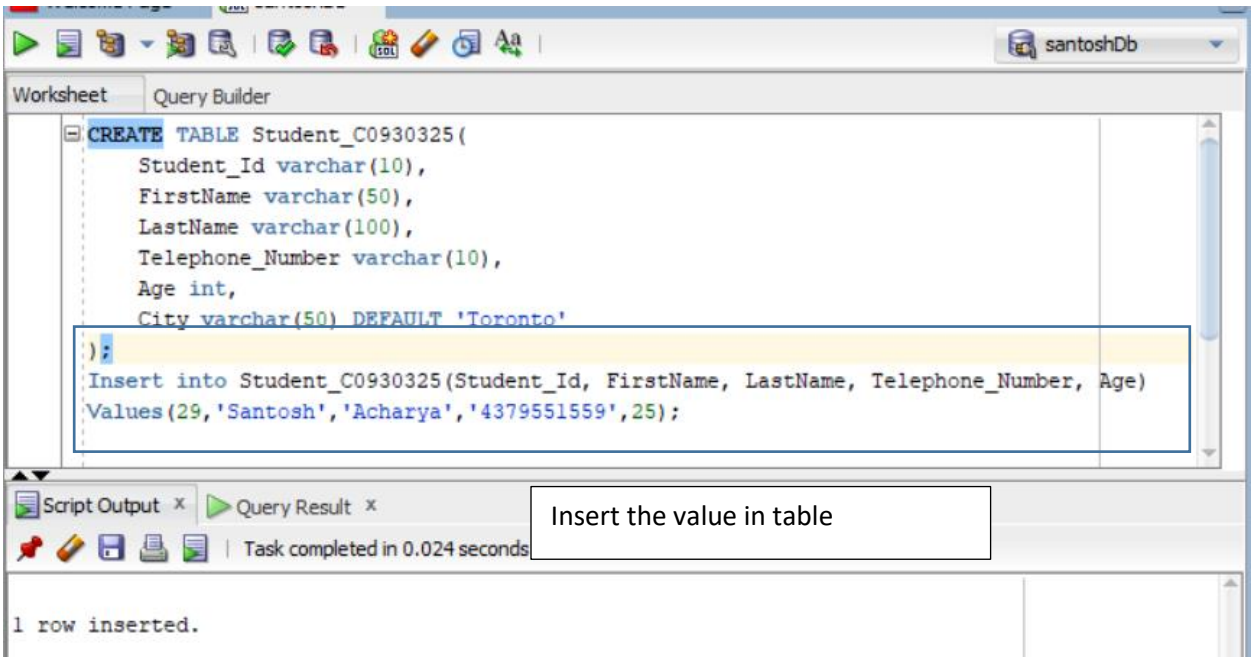
```
CREATE TABLE Student_C0930325 (
        Student_Id varchar(10),
        FirstName varchar(50),
        LastName varchar(100),
        Telephone_Number varchar(10),
        Age int,
        City varchar(50) DEFAULT 'Toronto'

    );
```



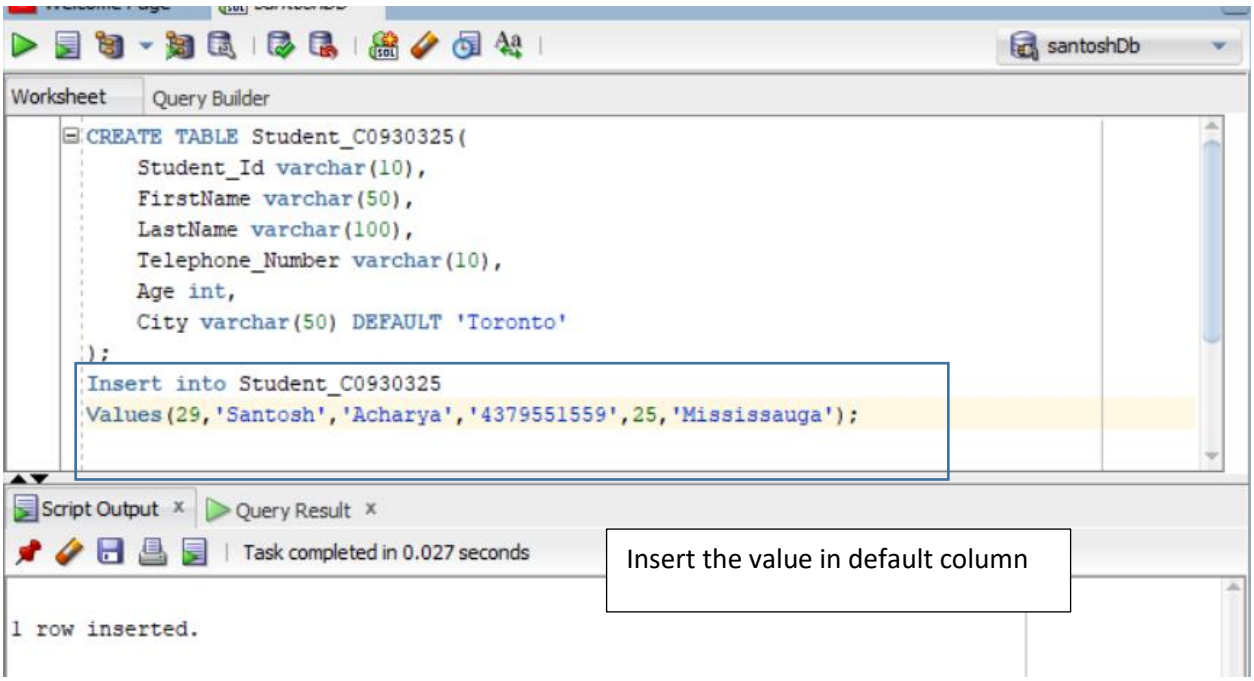
Inserting Data into Table

- To insert the data in the Student_C0930325 using SQL query.
  Insert into Student_C0930325(Student_Id, FirstName, LastName, Telephone_Number, Age)
  Values(29,'Santosh','Acharya','4379551559',25);



Change the value of default constraint

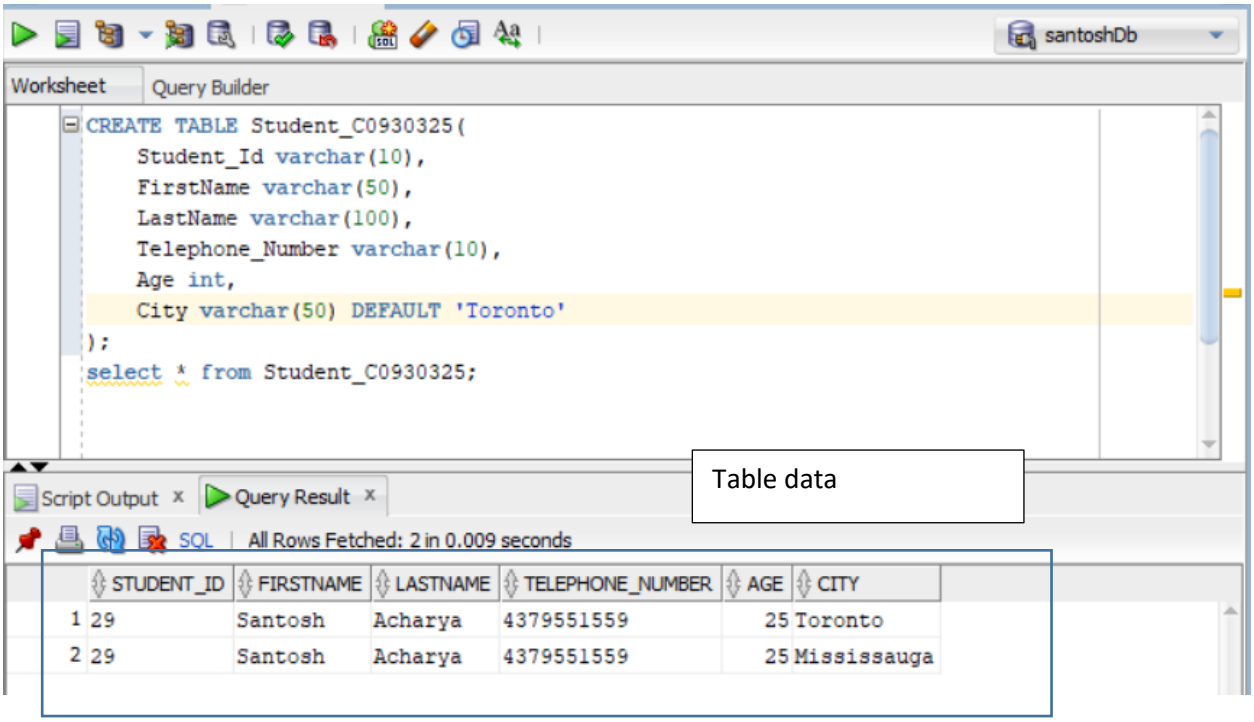
- To insert the data in the Student_C0930325 using SQL query when City has default value Toronto but we have enter value as Mississauga in City which will repleace Toronto.
  Insert into Student_C0930325
  Values('29','Santosh','Acharya','4379551559',25,'Mississauga');



View the data in the table

- To display the data from the Student_C0930325 we use SQL Query.

  Select * from Student_C0930325;


santoshDb
Worksheet
Query Builder
CREATE TABLE Student_C0930325(
Student_Id varchar(10),
FirstName varchar(50),
LastName varchar(100),
Telephone_Number varchar(10),
Age int,
City varchar(50) DEFAULT 'Toronto'
);
select * from Student_C0930325;
Table data
Script Output
Query Result
SQL
All Rows Fetched: 2 in 0.009 seconds
STUDENT_ID FIRSTNAME LASTNAME TELEPHONE_NUMBER AGE CITY
1 29 Santosh Acharya 4379551559 25 Toronto
2 29 Santosh Acharya 4379551559 25 Mississauga