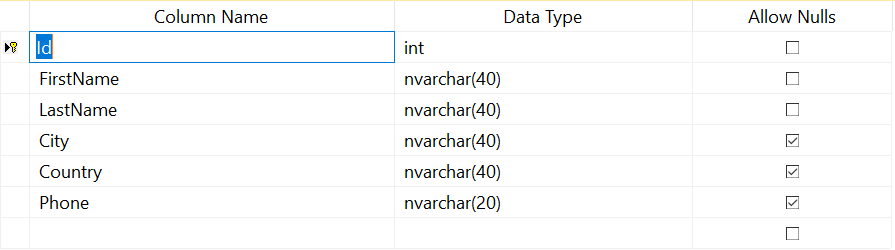
**Module 2: Solutions to practice questions**

**Set 1:**

1. Create database “CustomerDatabase”. Query executions for the following questions should be made in CustomerDatabase

**Answer**: Create database CustomerDatabase;

1. Create a table called “Customer”. See below meta data for table creation. Please note that “Id” is a primary key **column**.



**Answer:**

CREATE TABLE [dbo].[Customer](

[Id] [int] IDENTITY(1,1) NOT NULL Primary key,

[FirstName] [nvarchar](40) NOT NULL,

[LastName] [nvarchar](40) NOT NULL,

[City] [nvarchar](40) NULL,

[Country] [nvarchar](40) NULL,

[Phone] [nvarchar](20) NULL)

1. For the table created above, insert the following values:

(1,'Maria','Anders','Berlin','Germany','030-0074321'),

(2,'Ana','Trujillo','Mexico D.F.','Mexico','(5) 555-4729'),

(3,'Antonio','Moreno','Mexico D.F.','Mexico','(5) 555-3932'),

(4,'Thomas','Hardy','London','UK','(171) 555-7788'),

(5,'Christina','Berglund','Lulea','Sweden','0921-12 34 65'),

(6,'Hanna','Moos','Mannheim','Germany','0621-08460'),

(7,'Frederique','Citeaux','Strasbourg','France','88.60.15.31'),

(8,'Martín','Sommer','Madrid','Spain','(91) 555 22 82'),

(9,'Laurence','Lebihan','Marseille','France','91.24.45.40'),

(10,'Elizabeth','Lincoln','Tsawassen','Canada','(604) 555-4729')

**Answer:**

Insert into dbo.Customer(Id, FirstName, LastName, City, Country, Phone)

Values

(1,'Maria','Anders','Berlin','Germany','030-0074321'),

(2,'Ana','Trujillo','Mexico D.F.','Mexico','(5) 555-4729'),

(3,'Antonio','Moreno','Mexico D.F.','Mexico','(5) 555-3932'),

(4,'Thomas','Hardy','London','UK','(171) 555-7788'),

(5,'Christina','Berglund','Lulea','Sweden','0921-12 34 65'),

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(10,'Elizabeth','Lincoln','Tsawassen','Canada','(604) 555-4729')

1. Write a Query to Display the records in the customer table.

**Answer**: Select \* from CustomerDatabase .dbo.Customer;

1. Thomas Hardy who resides in London, UK has now moved to Berlin, Germany. Update the city and Country of Thomas Hardy.

**Answer:** Update CustomerDatabase .dbo.Customer

Set City = ‘Berlin’ and Country = ‘Germany’

Where Id = 4;

1. Now, Add a column Date\_of\_birth of type date.

**Answer:** Alter table CustomerDatabase .dbo.Customer

Add Date\_of\_birth Date;

1. Update the Date\_of\_birth column ‘1992-12-25’ for customers in Germany and ‘1992-10-20’ for customers in other countries. Note that you should write two update statements.

**Answer:** Update Customer

Set Date\_of\_birth = ‘1992-12-25’

Where Country = ‘Germany’

Update Customer

Set Date\_of\_birth = ‘1992-10-20’

Where Country <> ‘Germany’

1. Create a new table “CustomerDB” with the same design as that of “Customer” table that you created above.

**Answer:** CREATE TABLE [dbo].[CustomerDB](

[Id] [int] IDENTITY(1,1) NOT NULL Primary key,

[FirstName] [nvarchar](40) NOT NULL,

[LastName] [nvarchar](40) NOT NULL,

[City] [nvarchar](40) NULL,

[Country] [nvarchar](40) NULL,

[Phone] [nvarchar](20) NULL

1. Now Insert the records from “Customer” table to “CustomerDB” table (Hint:Use Insert into…select \* from)

**Answer:** Insert into CustomerDb

Select \* from Customer;

1. Rename the ID column name to CustomerID in the “Customer” table.

**Answer:** Exec sp\_rename 'Customer.ID','CustomerID','Column';

1. Change the data type for FirstName and LastName field in “Customer” table from nvarchar(40) to nvarchar(50).

**Answer:** Alter table Customer

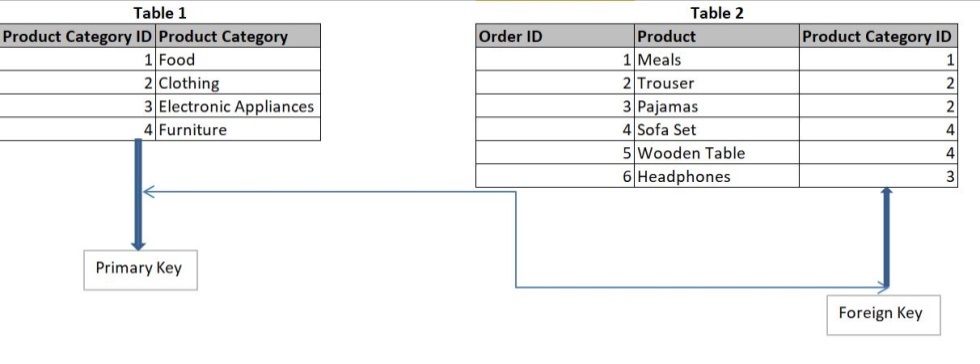
Alter column FirstName nvarchar(50);

Alter table Customer

Alter column LastName nvarchar(50);

**Set 2:**

1. In our class lectures, we saw two tables of Products and their Categories (shown below) which explains the primary key and foreign key concepts. You are tasked to create the below tables along with the primary key and foreign key constraints. Also, when you create the tables, you will use your knowledge gained from the lectures to decide on the data type for each column.



**Answer:** CREATE TABLE Table1(

Product\_Category\_ID INT Identity PRIMARY KEY,

Product\_Category VARCHAR(100) NOT NULL);

CREATE TABLE Table2(

Order\_Id INT Identity PRIMARY KEY,

Product varchar(100) not null,

Product\_category\_Id INT,

CONSTRAINT fk\_category

FOREIGN KEY (Product\_category\_Id)

REFERENCES Table1(Product\_category\_Id));

**Set 3 :**

1. Create database “TransactionData”.

**Answer:** Create Database TransactionData;

1. Attached is an Excel File “Shipment\_Data.xlsx”. You are asked to import this Excel file into MS SQL server (Please watch the recitation videos if you need to revise on how to import an excel file into MS SQL Server).
2. To the “Shipment\_Data” table imported, add a column, total\_ship\_cost of data type “float”.

**Answer:** Alter Table Shipment\_Data

Add Total\_ship\_cost float;

1. Update the total\_ship\_cost as Total\_ship\_cost = Linehaul\_charge + Fuel\_cost.

**Answer:** Update Shipment\_Data

Set Total\_ship\_cost = Linehaul\_charge + Fuel\_cost

1. Export this new shipment\_Data stats with total\_ship\_cost into an excel sheet (Please watch the recitation videos if you need to revise on how to export an excel file into MS SQL Server).

**Set 4:**

1. Use the database “TransactionData” that was created in Set 3. Create a table “Region”. It has following columns:

**Region\_code** of type Int, primary key column

**RegionName** of type varchar(50)

**Answer:** Use TransactionData;

Create table Region(Region\_Code int primary key, RegionName varchar(50) not null);

1. Insert the following values into the region table:

|  |  |
| --- | --- |
| **Region\_code** | **RegionName** |
| 1 | South |
| 2 | Central |
| 3 | North |

**Answer:** Insert into Region

Values

(1, ‘South’), (2, ‘Central’), (3, ‘North’);

1. Use the database “TransactionData” that was created in Set 3. Create a table “Shipment\_level\_Stats”. It has the following columns:

**Shipment\_ID** of type integer, autogenerated, Primary key column

**Shipment\_Date** of type Date.

**Region\_Code** of type Int, Foreign key column referencing Region\_code column from “Region” table.

**Answer:** CREATE TABLE Shipment\_level\_Stats (

Shipment\_Id INT Identity PRIMARY KEY,

Shipment\_Date Date,

Region\_Code Int,

CONSTRAINT fk\_Region\_code

FOREIGN KEY (Region\_code)

REFERENCES Region(Region\_Code));

1. Enter 5 shipments to the above table starting from ‘2020-07-01’ to ‘2020-07-05’ (i.e, one shipment per day). Shipments shipped on first 2 days have region code as 1, 3rd day shipment with region code as 2 and last 2 day’s shipment with region code as 3.

**Answer:** Insert into Shipment\_level\_Stats(Shipment\_Date, Region\_Code)

Values (‘2020-07-01’, 1), (‘2020-07-02’, 1), (‘2020-07-03’, 2),

(‘2020-07-04’, 3), (‘2020-07-05’, 3)

1. You have now 2 new shipments shipped on ‘2020-07-06’ one each from West and East. Off late, your manager, Mahindra, had informed you that they will start receiving new shipments from East (Region code 4) and West (Region code 5) Regions as well. So your manager takes up the following step to make the changes:

**Step1**: Writes a query to Add the above two new shipments to the “Shipment\_level\_Stats” table.

Suddenly when he executes his query, He notices an error and seeks your help as he knows that you are taking SQL foundation course from Analytix Labs and he is very confident of your work. Please help your manager to resolve this issue with correct steps. Make sure referential integrity is still intact.

**Answer:** Step1 – You have to drop the foreign key constraint from Shipment\_level\_stats table:

Alter Table Shipment\_level\_stats

Drop Constraint fk\_Region\_code;

Step2 – Insert values into the Shipment\_level\_stats table:

Insert into Shipment\_level\_stats (Shipment\_Date, Region\_Code)

Values (‘2020-07-06’, 4), (‘2020-07-06’, 5);