

# DATABASE

## ONLINE RETAIL





# **“PROJECT”**

**COURSE:**

**DATABASE SYSTEMS**

**SUBMITTED TO:**

**MAM IRUM MATLOOB**

**SECTION**

**4-A**

**SUBMITTED BY:**

**BISMA ALI (2021-BSE-008)**

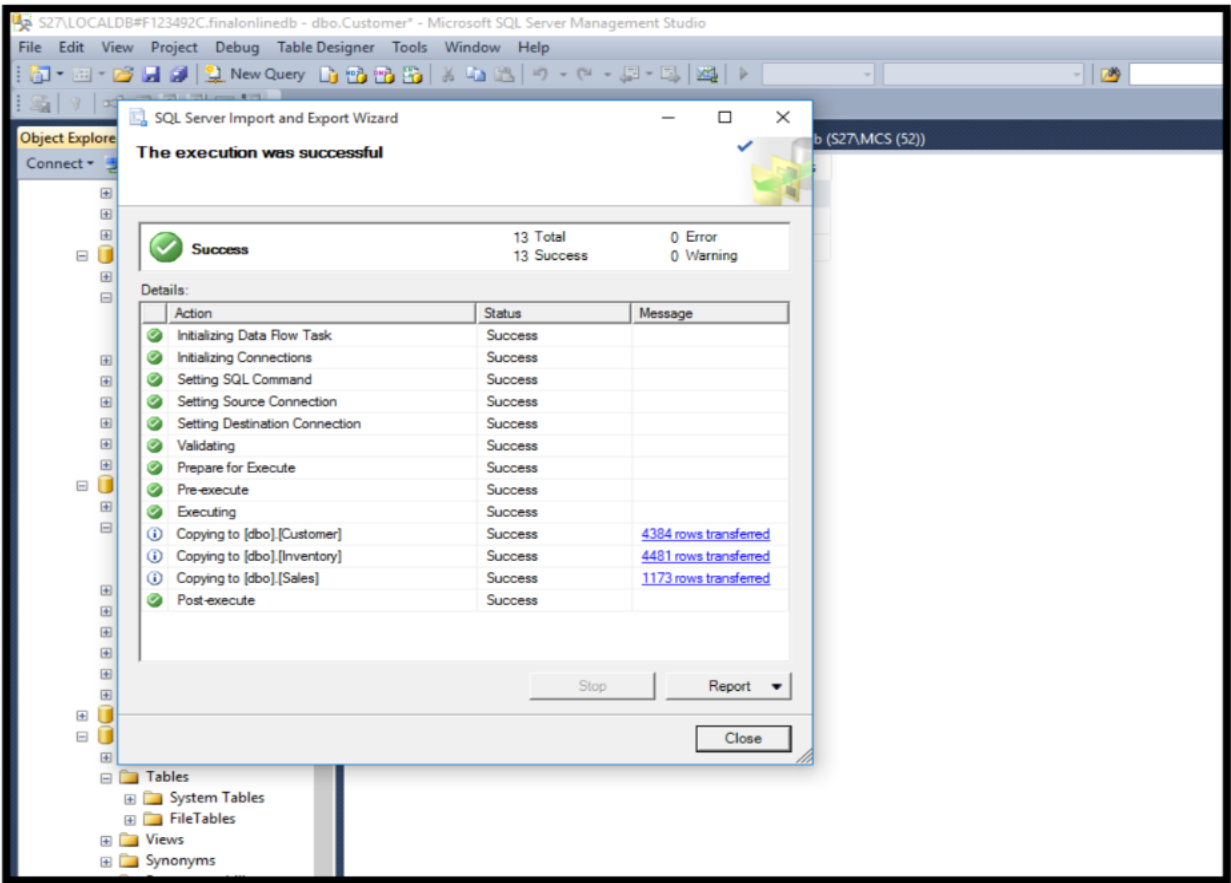
**LAIBA SOHAIL (2021-BSE-016)**

**NEHA AMJAD (2021-BSE-024)**

**TANZEELA ASGHAR (2021-BSE-032)**

# “ONLINE RETAIL II”

## “IMPORTING DATASET”



## “DATASET TABLES”

### CUSTOMER TABLE:

Customer ID	Country					
C1	United Kingdom					
C2	United Kingdom					
C3	United Kingdom					
C4	United Kingdom					
C5	United Kingdom					
C6	United Kingdom					
C7	United Kingdom					
C8	United Kingdom					
C9	United Kingdom					
C10	United Kingdom					
C11	United Kingdom					
C12	United Kingdom					
C13	United Kingdom					
C14	United Kingdom					
C15	United Kingdom					
C16	United Kingdom					
C17	United Kingdom					
C18	United Kingdom					
C19	United Kingdom					
C20	United Kingdom					
C21	United Kingdom					
C22	United Kingdom					
C23	United Kingdom					
C24	United Kingdom					
C25	United Kingdom					
C26	United Kingdom					
C27	United Kingdom					
C28	France					
C29	France					
C30	France					
C31	France					
C32	France					
C33	France					
C34	France					
C35	France					
C36	France					
C37	France					
C38	France					

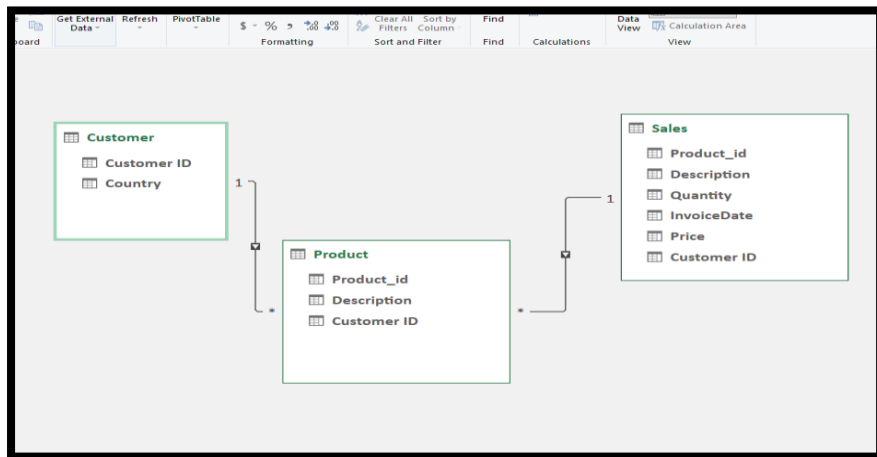
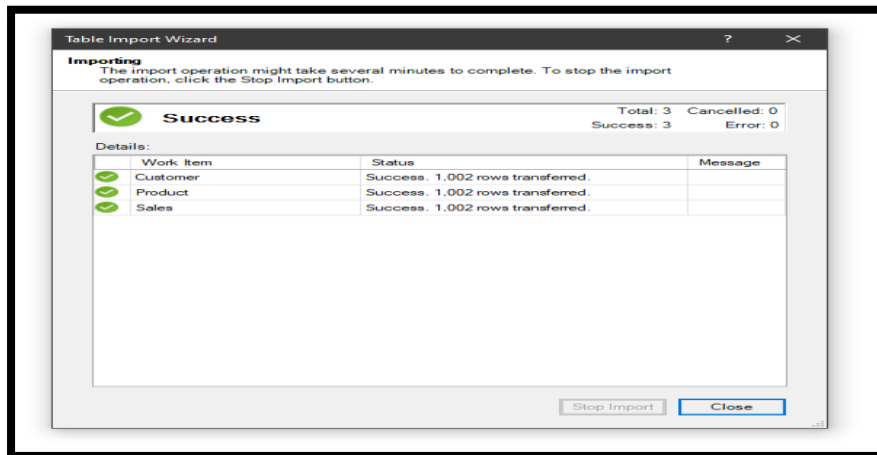
## PRODUCT TABLE:

	A	B	C
1	Product_id	Description	Customer ID
2	1001	15CM CHRISTMAS GLASS BALL 20 LIGHTS	C1
3	1003	PINK CHERRY LIGHTS	C1
4	1002	WHITE CHERRY LIGHTS	C1
5	1004	RECORD FRAME 7" SINGLE SIZE	C1
6	1006	PINK DOUGHNUT TRINKET POT	C2
7	1008	FANCY FONT HOME SWEET HOME DOORMAT	C3
8	1010	DOG BOWL , CHASING BALL DESIGN	C7
9	1012	LUNCHBOX WITH CUTLERY FAIRY CAKES	C8
10	1014	LOVE BUILDING BLOCK WORD	C9
11	1016	ASSORTED COLOUR BIRD ORNAMENT	C10
12	1018	CHRISTMAS CRAFT WHITE FAIRY	C11
13	1020	HEART FILIGREE DOVE LARGE	C12
14	1022	PIZZA PLATE IN BOX	C13
15	1024	SET OF 3 BLACK FLYING DUCKS	C14
16	1026	PLEASE ONE PERSON METAL SIGN	C15
17	1028	CLASSIC WHITE FRAME	C16
18	1030	BISCUITS SMALL BOWL LIGHT BLUE	C17
19	1032	CHRISTMAS CRAFT HEART DECORATIONS	C18
20	1034	PARTY CONE CHRISTMAS DECORATION	C19
21	1036	JOY LARGE WOOD LETTERS	C20
22	1038	EUCALYPTUS & PINECONE WREATH	C21
23	1040	FLORAL BLUE MONSTER	C22
24	1042	INFLATABLE POLITICAL GLOBE	C23
25	1044	BLUE PADDED SOFT MOBILE	C23
26	1046	PACK OF 20 SKULL PAPER NAPKINS	C23
27	1048	PINK BLUE FELT CRAFT TRINKET BOX	C23

## SALES TABLE:

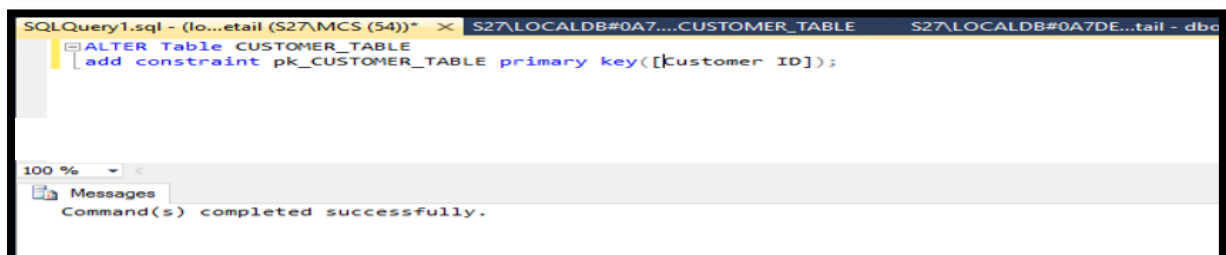
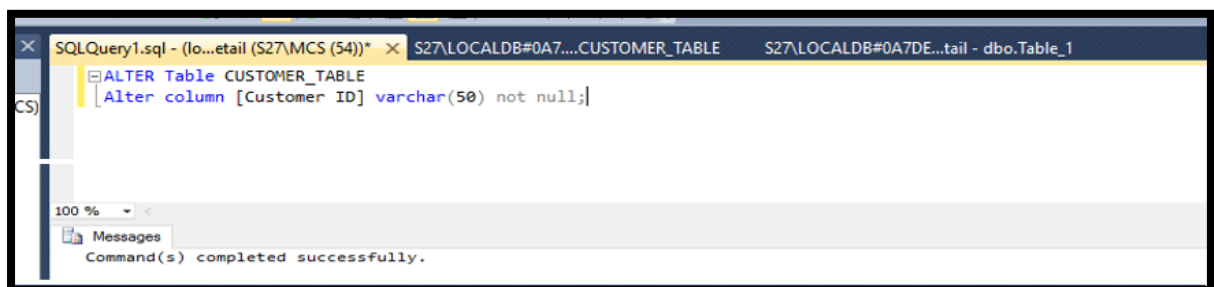
Product_id	Description	Quantity	InvoiceDate	Price	Customer ID
1001	15CM CHRISTMAS GLASS BALL 20 LIGHTS	6	12/1/2010 8:26	2.55	C1
1003	PINK CHERRY LIGHTS	6	12/1/2010 8:26	3.39	C1
1002	WHITE CHERRY LIGHTS	8	12/1/2010 8:26	2.75	C1
1004	RECORD FRAME 7" SINGLE SIZE	6	12/1/2010 8:26	3.39	C1
1006	PINK DOUGHNUT TRINKET POT	6	12/1/2010 8:26	3.39	C2
1008	FANCY FONT HOME SWEET HOME DOORMAT	2	12/1/2010 8:26	7.65	C3
1010	DOG BOWL , CHASING BALL DESIGN	6	12/1/2010 8:26	4.25	C7
1012	LUNCHBOX WITH CUTLERY FAIRY CAKES	6	12/1/2010 8:28	1.85	C8
1014	LOVE BUILDING BLOCK WORD	6	12/1/2010 8:28	1.85	C9
1016	ASSORTED COLOUR BIRD ORNAMENT	6	12/1/2010 8:34	4.25	C10
1018	CHRISTMAS CRAFT WHITE FAIRY	3	12/1/2010 8:34	4.95	C11
1020	HEART FILIGREE DOVE LARGE	3	12/1/2010 8:34	4.95	C12
1022	PIZZA PLATE IN BOX	3	12/1/2010 8:34	4.95	C13
1024	SET OF 3 BLACK FLYING DUCKS	32	12/1/2010 8:34	1.69	C14
1026	PLEASE ONE PERSON METAL SIGN	6	12/1/2010 8:34	2.1	C15
1028	CLASSIC WHITE FRAME	6	12/1/2010 8:34	2.1	C16
1030	BISCUITS SMALL BOWL LIGHT BLUE	8	12/1/2010 8:34	3.75	C17
1032	CHRISTMAS CRAFT HEART DECORATIONS	6	12/1/2010 8:34	1.65	C18
1034	PARTY CONE CHRISTMAS DECORATION	6	12/1/2010 8:34	4.25	C19
1036	JOY LARGE WOOD LETTERS	3	12/1/2010 8:34	4.95	C20
1038	EUCALYPTUS & PINECONE WREATH	2	12/1/2010 8:34	9.95	C21
1040	FLORAL BLUE MONSTER	3	12/1/2010 8:34	5.95	C22
1042	INFLATABLE POLITICAL GLOBE	3	12/1/2010 8:34	5.95	C23
1044	BLUE PADDED SOFT MOBILE	4	12/1/2010 8:34	7.95	C23
1046	PACK OF 20 SKULL PAPER NAPKINS	4	12/1/2010 8:34	7.95	C23
1048	PINK BLUE FELT CRAFT TRINKET BOX	3	12/1/2010 8:35	5.95	C23
1050	FELTCRAFT DOLL MARIA	24	12/1/2010 8:45	3.75	C23
1052	VINTAGE SNAKES & LADDERS	24	12/1/2010 8:45	3.75	C28
1054	CHOCOLATE HOT WATER BOTTLE	12	12/1/2010 8:45	3.75	C29
1056	SET OF MEADOW FLOWER STICKERS	12	12/1/2010 8:45	0.85	C30
1058	JUMBO BAG CHARLIE AND LOLA TOYS	24	12/1/2010 8:45	0.65	C31
1060	COUNTRY COTTAGE DOORSTOP GREEN	48	12/1/2010 8:45	0.85	C32
1062	CHARLIE+LOLA RED HOT WATER BOTTLE	24	12/1/2010 8:45	1.25	C33
1064	CHARLIE+LOLA PINK HOT WATER BOTTLE	18	12/1/2010 8:45	2.95	C34
1066	TOMATO CHARLIE+LOLA COASTER SET	24	12/1/2010 8:45	2.95	C35
1068	CHARLIE + LOLA BISCUITS TINS	24	12/1/2010 8:45	1.95	C36
1070	CHARLIE & LOLA WASTEPAPER BIN BLUE	24	12/1/2010 8:45	1.95	C37

## “RELATIONSHIPS”

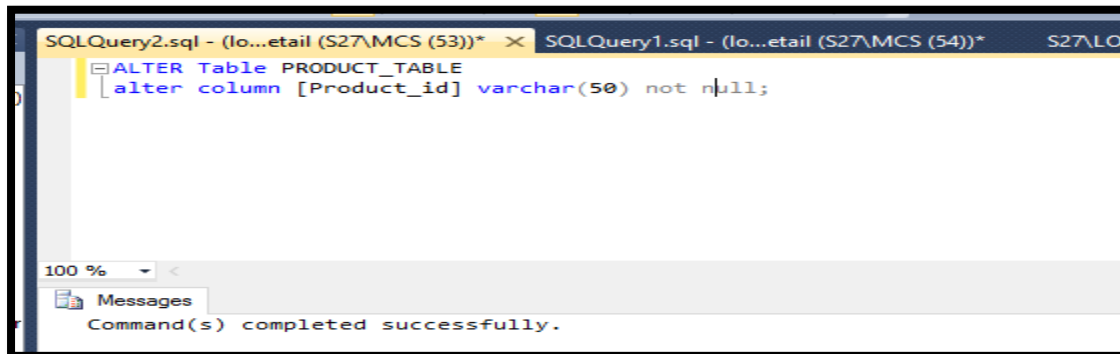


## “SETTING PRIMARY AND FOREIGN KEYS”

### CUSTOMER TABLE:



## PRODUCT TABLE:

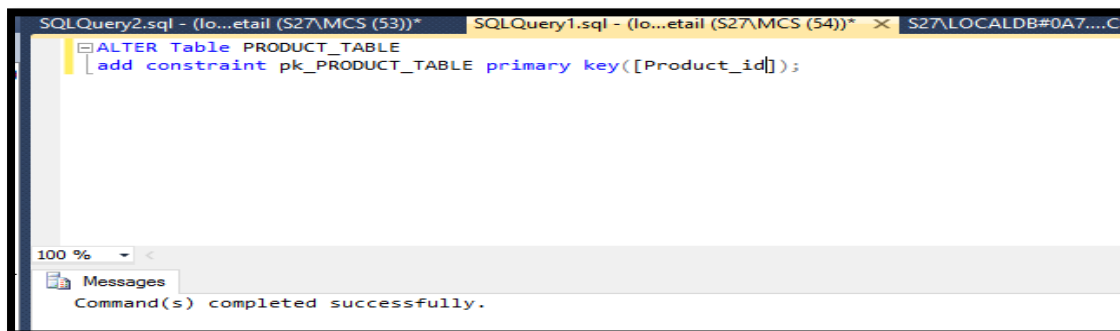


SQLQuery2.sql - (lo...etail (S27\MCS (53)))  
SQLQuery1.sql - (lo...etail (S27\MCS (54)))  
S27\LO

```
ALTER Table PRODUCT_TABLE  
[alter column [Product_id] varchar(50) not null;
```

100 %

Messages  
Command(s) completed successfully.

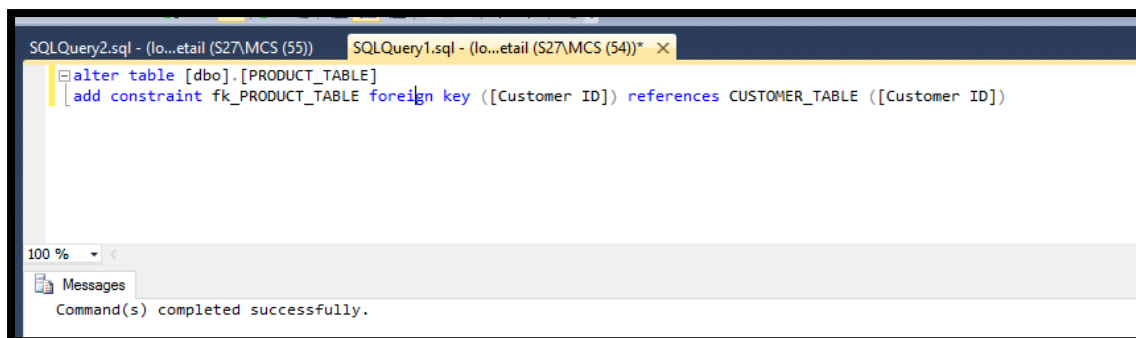


SQLQuery2.sql - (lo...etail (S27\MCS (53)))  
SQLQuery1.sql - (lo...etail (S27\MCS (54)))  
S27\LOCALDB#0A7....CI

```
ALTER Table PRODUCT_TABLE  
[add constraint pk_PRODUCT_TABLE primary key([Product_id]);
```

100 %

Messages  
Command(s) completed successfully.



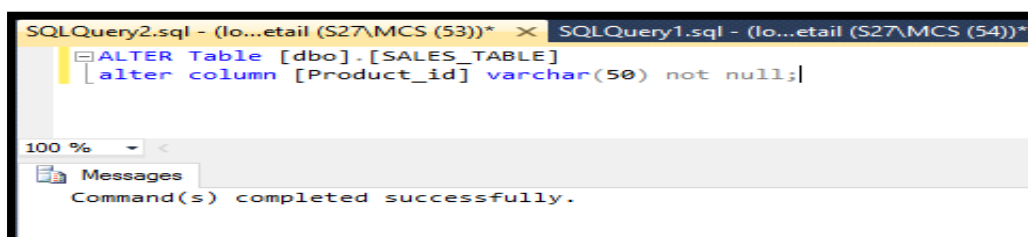
SQLQuery2.sql - (lo...etail (S27\MCS (55)))  
SQLQuery1.sql - (lo...etail (S27\MCS (54)))  
S27\LOCALDB#0A7....CI

```
alter table [dbo].[PRODUCT_TABLE]  
[add constraint fk_PRODUCT_TABLE foreign key ([Customer ID]) references CUSTOMER_TABLE ([Customer ID])
```

100 %

Messages  
Command(s) completed successfully.

## SALES TABLE:

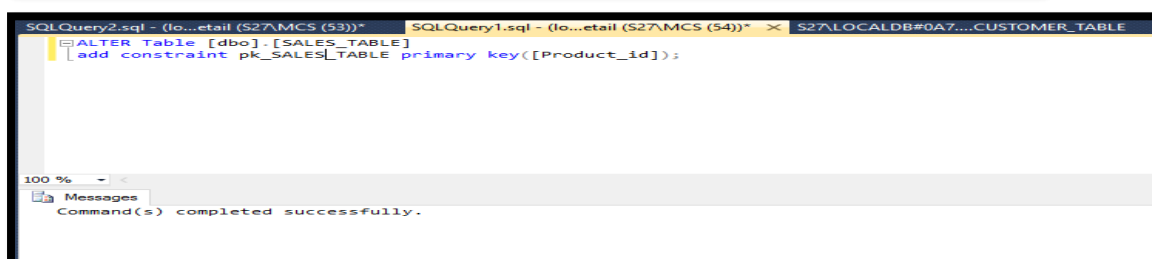


SQLQuery2.sql - (lo...etail (S27\MCS (53)))  
SQLQuery1.sql - (lo...etail (S27\MCS (54)))  
S27\LOCALDB#0A7....CI

```
ALTER Table [dbo].[SALES_TABLE]  
[alter column [Product_id] varchar(50) not null;
```

100 %

Messages  
Command(s) completed successfully.

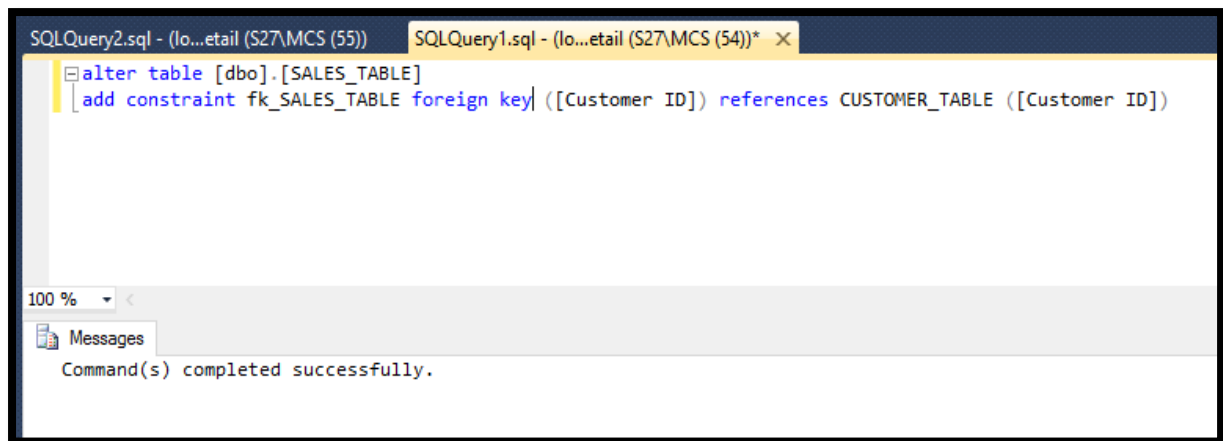


SQLQuery2.sql - (lo...etail (S27\MCS (53)))  
SQLQuery1.sql - (lo...etail (S27\MCS (54)))  
S27\LOCALDB#0A7....CUSTOMER\_TABLE

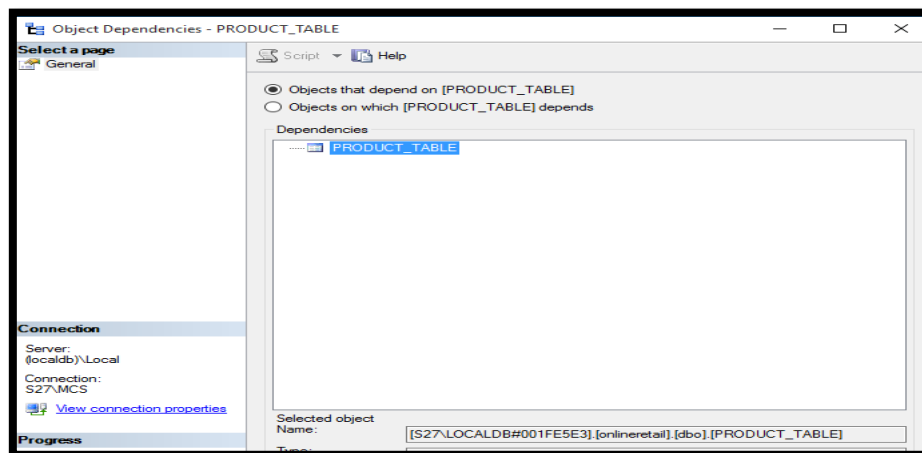
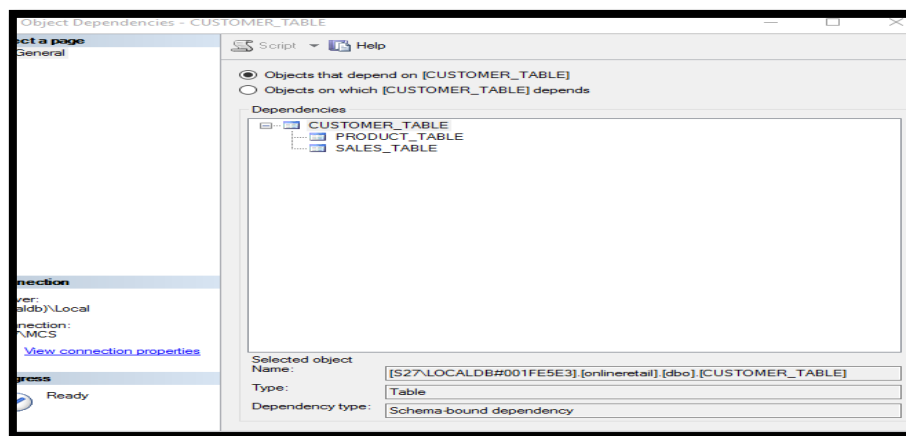
```
ALTER Table [dbo].[SALES_TABLE]  
[add constraint pk_SALES_TABLE primary key([Product_id]);
```

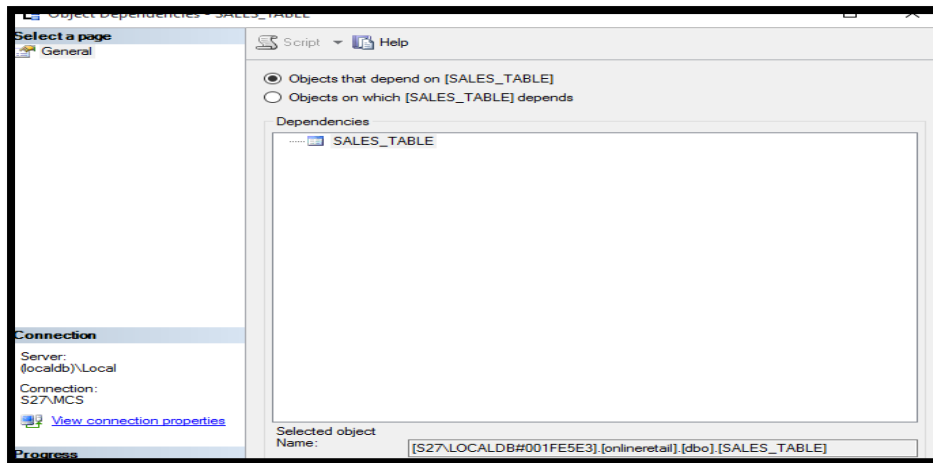
100 %

Messages  
Command(s) completed successfully.



## “FUNCTIONAL DEPENDENCIES AND SUPER, CANDIDATE KEYS”



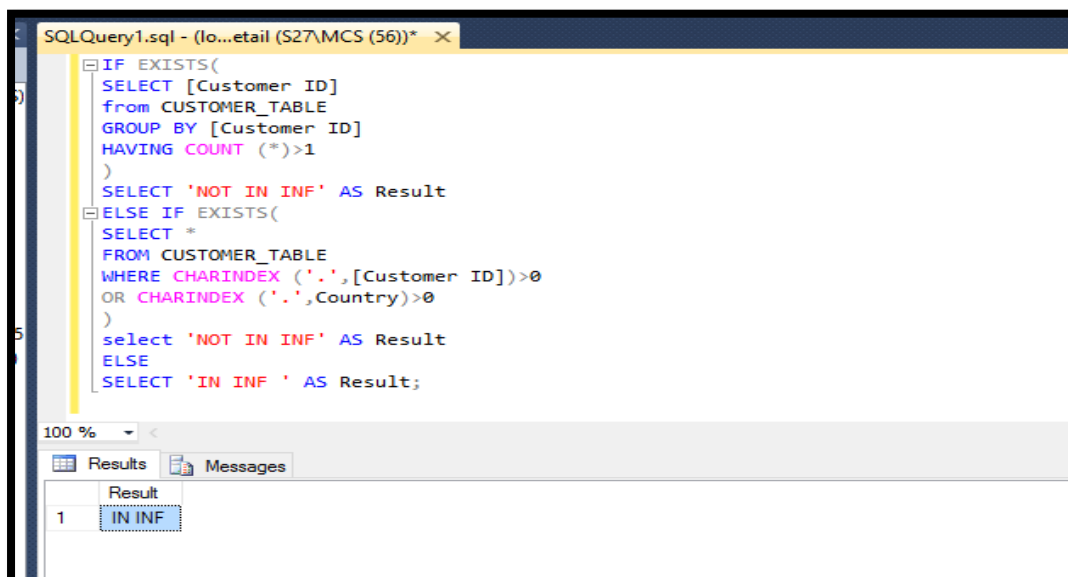


## **“NORMALIZATION”**

### **FIRST NORMAL FORM:**

Rules for First normal form:

- Each table should have a primary key: A primary key is a unique identifier for each record. No two records should have the same primary key value.
- Data should be organized into tables: Divide your data into logical units and store related information in separate tables. Each table should represent a distinct entity or concept.
- Columns should contain atomic values: Each column should store only a single value. Avoid storing multiple values or repeating groups within a single attribute. If necessary, split them into separate columns.
- Each column should have a unique name: Ensure that each column within a table has a unique and meaningful name.





SQLQuery4.sql - (lo...etail (S27\MCS (57))\*)    SQLQuery3.sql - (lo...ster (S27\MCS (54))    SQLQuer

```

IF EXISTS(
SELECT Product_id
from [dbo].[PRODUCT_TABLE]
GROUP BY [Product_id]
HAVING COUNT (*)>1
)
SELECT 'NOT IN INF' AS Result
ELSE IF EXISTS(
SELECT *
FROM [dbo].[PRODUCT_TABLE]
WHERE CHARINDEX ('.',[Product_id])>0
OR CHARINDEX ('.',[Description])>0
)
select 'NOT IN INF' AS Result
ELSE
SELECT 'IN INF ' AS Result;

```

100 % <

Results Messages

	Result
1	IN INF

SQLQuery4.sql - (lo...etail (S27\MCS (57))\*)    SQLQuery3.sql - (lo...ster (S27\MCS (54))    SQLQuery2.sql - (lo

```

from [dbo].[SALES_TABLE]
GROUP BY [Product_id]
HAVING COUNT (*)>1
)
SELECT 'NOT IN INF' AS Result
ELSE IF EXISTS(
SELECT *
FROM [dbo].[SALES_TABLE]
WHERE CHARINDEX ('.',[Product_id])>0
OR CHARINDEX ('.',[Description])>0
OR CHARINDEX ('.',[Quantity])>0
OR CHARINDEX ('.',[InvoiceDate])>0
OR CHARINDEX ('.',[Price])>0
)
select 'NOT IN INF' AS Result
ELSE
SELECT 'IN INF ' AS Result;

```

100 % <

Results Messages

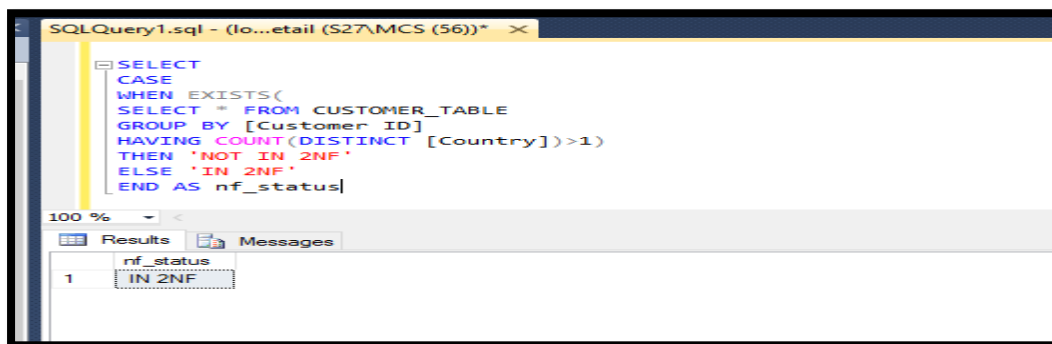
	Result
1	IN INF

...

## SECOND NORMAL FORM:

To satisfy the second normal form, a relation must meet the following criteria:

- It must already be in first normal form (1NF).
- All non-key attributes must be functionally dependent on the entire primary key, meaning there should be no partial dependencies

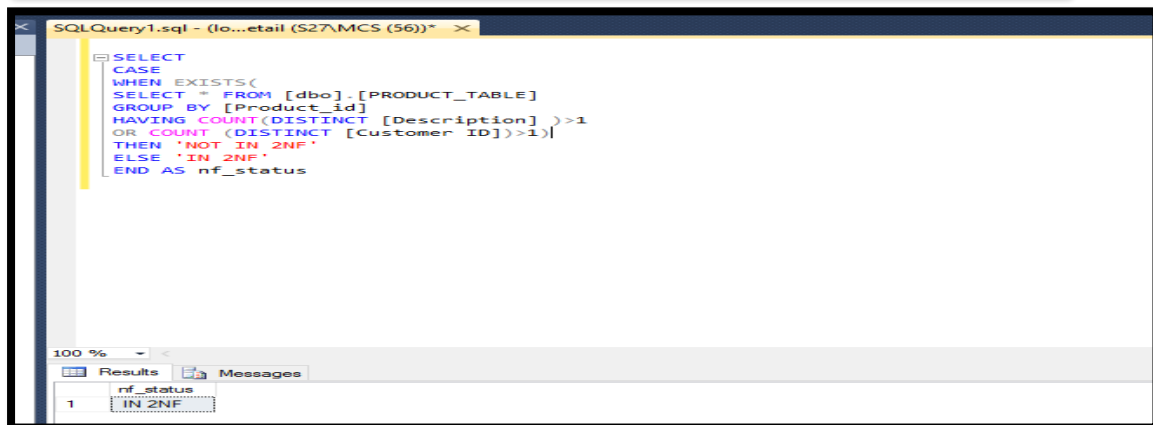


```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
WHEN EXISTS(
SELECT * FROM CUSTOMER_TABLE
GROUP BY [Customer ID]
HAVING COUNT(DISTINCT [Country])>1)
THEN 'NOT IN 2NF'
ELSE 'IN 2NF'
END AS nf_status
```

100 %

Results Messages

nf_status
1

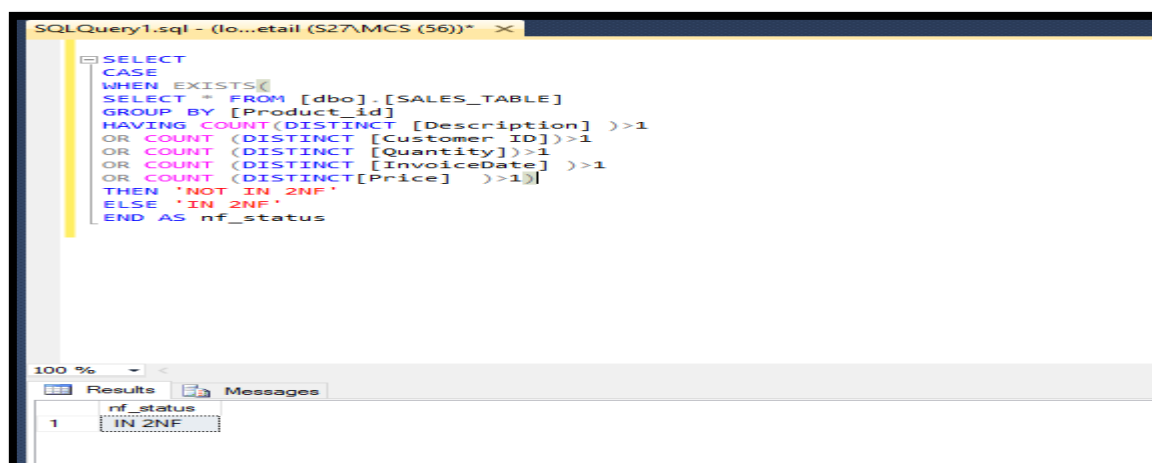


```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
WHEN EXISTS(
SELECT * FROM [dbo].[PRODUCT_TABLE]
GROUP BY [Product_id]
HAVING COUNT(DISTINCT [Description])>1
OR COUNT (DISTINCT [Customer ID])>1)
THEN 'NOT IN 2NF'
ELSE 'IN 2NF'
END AS nf_status
```

100 %

Results Messages

nf_status
1



```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
WHEN EXISTS(
SELECT * FROM [dbo].[SALES_TABLE]
GROUP BY [Product_id]
HAVING COUNT(DISTINCT [Description])>1
OR COUNT (DISTINCT [Customer ID])>1
OR COUNT (DISTINCT [Quantity])>1
OR COUNT (DISTINCT [InvoiceDate])>1
OR COUNT (DISTINCT [Price])>1)
THEN 'NOT IN 2NF'
ELSE 'IN 2NF'
END AS nf_status
```

100 %

Results Messages

nf_status
1

## THIRD NORMAL FORM:

Rules for First normal form:

- Meet the requirements of 2NF: The table must already satisfy the rules of the Second Normal

Form (2NF). This means that it should be in 2NF, and all non-key attributes should be fully functionally dependent on the primary key.

- Eliminate transitive dependencies: A transitive dependency occurs when a non-key attribute depends on another non-key attribute. To adhere to 3NF, you must remove any such dependencies by decomposing the table into multiple tables.

```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
  WHEN EXISTS (
    SELECT *
    FROM [dbo].[CUSTOMER_TABLE]
    WHERE [Customer ID]
    IN (
      SELECT [Customer ID]
      FROM [dbo].[CUSTOMER_TABLE]
      GROUP BY [Customer ID]
      HAVING COUNT(DISTINCT [Country]) > 1
    )
  )
  THEN 'NOT IN 3NF'
  ELSE 'IN 3NF'
  END AS nf_status

```

nf_status
1

```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
  WHEN EXISTS (
    SELECT *
    FROM [dbo].[PRODUCT_TABLE]
    WHERE [Product_id]
    IN (
      SELECT [Product_id]
      FROM [dbo].[PRODUCT_TABLE]
      GROUP BY [Product_id]
      HAVING COUNT(DISTINCT [Description]) > 1
      OR COUNT(DISTINCT [Customer ID]) > 1
    )
  )
  THEN 'NOT IN 3NF'
  ELSE 'IN 3NF'
  END AS nf_status

```

nf_status
1

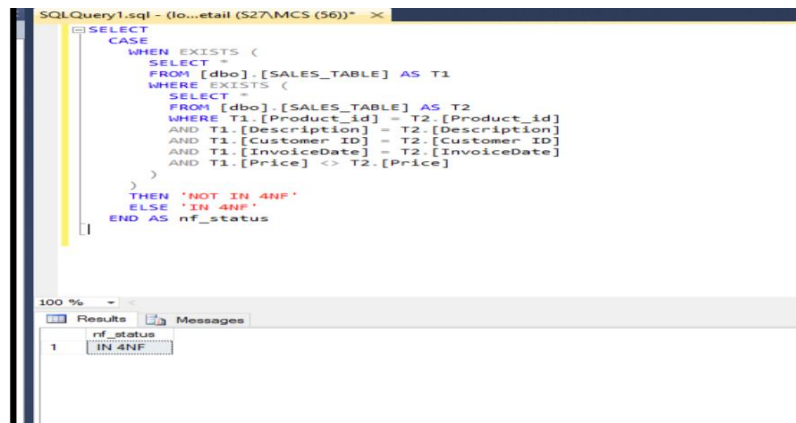
```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
  WHEN EXISTS (
    SELECT *
    FROM [dbo].[SALES_TABLE]
    WHERE [Product_id] IN (
      SELECT [Product_id]
      FROM [dbo].[SALES_TABLE]
      GROUP BY [Product_id]
      HAVING COUNT(DISTINCT [Description]) > 1
      OR COUNT(DISTINCT [Customer ID]) > 1
      OR COUNT(DISTINCT [Quantity]) > 1
      OR COUNT(DISTINCT [InvoiceDate]) > 1
      OR COUNT(DISTINCT [Price]) > 1
    )
  )
  THEN 'NOT IN 3NF'
  ELSE 'IN 3NF'
  END AS nf_status

```

nf_status
1

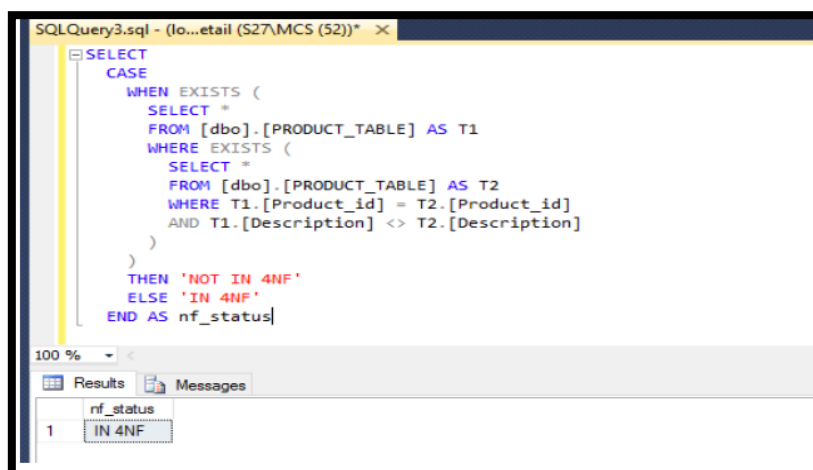
## **FOURTH NORMAL FORM:**

Fourth Normal Form (4NF) is an advanced level of database normalization that addresses certain types of multivalued dependencies. It builds upon the concepts of the first, second, and third normal forms (1NF, 2NF, and 3NF) and is designed to further eliminate data redundancy and anomalies in a relational database.



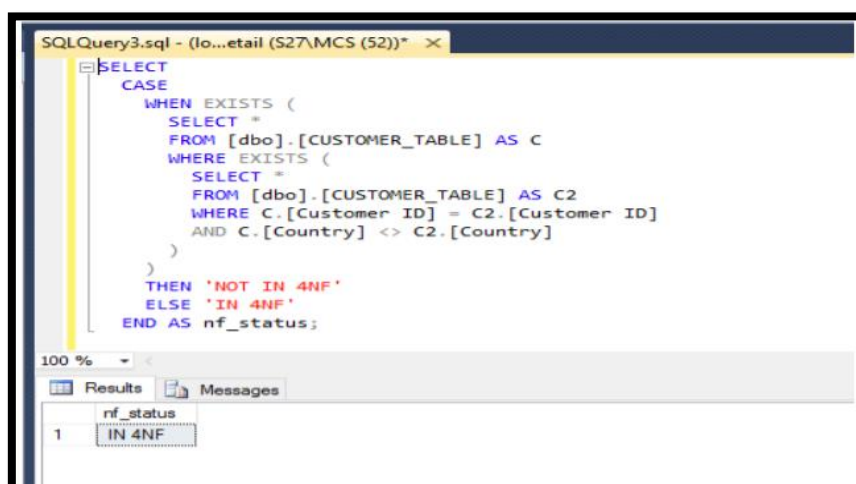
```
SQLQuery1.sql - (lo...etail (S27\MCS (56))) * X
SELECT
CASE
WHEN EXISTS (
SELECT *
FROM [dbo].[SALES_TABLE] AS T1
WHERE EXISTS (
SELECT *
FROM [dbo].[SALES_TABLE] AS T2
WHERE T1.[Product_id] = T2.[Product_id]
AND T1.[Description] = T2.[Description]
AND T1.[Customer ID] = T2.[Customer ID]
AND T1.[InvoiceDate] = T2.[InvoiceDate]
AND T1.[Price] <> T2.[Price]
)
)
THEN 'NOT IN 4NF'
ELSE 'IN 4NF'
END AS nf_status
```

nf_status
1 IN 4NF



```
SQLQuery3.sql - (lo...etail (S27\MCS (52))) * X
SELECT
CASE
WHEN EXISTS (
SELECT *
FROM [dbo].[PRODUCT_TABLE] AS T1
WHERE EXISTS (
SELECT *
FROM [dbo].[PRODUCT_TABLE] AS T2
WHERE T1.[Product_id] = T2.[Product_id]
AND T1.[Description] <> T2.[Description]
)
)
THEN 'NOT IN 4NF'
ELSE 'IN 4NF'
END AS nf_status
```

nf_status
1 IN 4NF

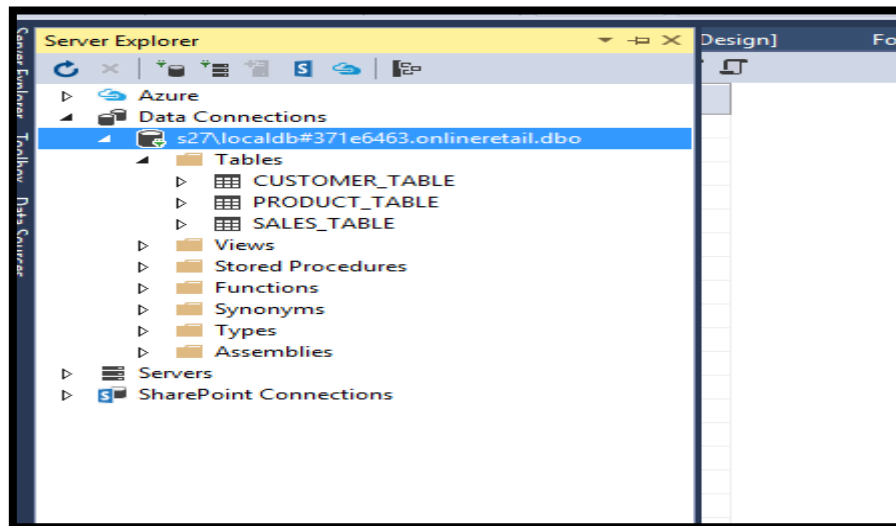


```
SQLQuery3.sql - (lo...etail (S27\MCS (52))) * X
SELECT
CASE
WHEN EXISTS (
SELECT *
FROM [dbo].[CUSTOMER_TABLE] AS C
WHERE EXISTS (
SELECT *
FROM [dbo].[CUSTOMER_TABLE] AS C2
WHERE C.[Customer ID] = C2.[Customer ID]
AND C.[Country] <> C2.[Country]
)
)
THEN 'NOT IN 4NF'
ELSE 'IN 4NF'
END AS nf_status;
```

nf_status
1 IN 4NF

## “FRONT END IN VISUAL STUDIO”

### CONNECTIVITY WITH DATABASE:



## “CUSTOMER TABLE FORM”

### FORM:

The screenshot shows a web application titled "CUSTOMER TABLE FORM" with a floral background. The form includes input fields for 'Customer ID' and 'Country'. On the left side, there are buttons for 'insert', 'delete', 'Update', 'show', and 'Next'. A large, empty rectangular area is positioned below the input fields, likely for displaying data or additional form elements.

## INSERT:

```
    }

    1 reference
    private void button1_Click(object sender, EventArgs e)
    {
        con.Open();
        MessageBox.Show("Connection open");
        SqlCommand cm1;
        string Customer_ID = textCustomer_ID.Text;
        string Country = textCountry.Text;
        string query = "Insert into CUSTOMER_TABLE(Customer_ID, Country) values ('" + Customer_ID + "','" + Country + "')";
        cm1 = new SqlCommand(query, con);
        cm1.ExecuteNonQuery();
        cm1.Dispose();
        con.Close();
    }
```

## DELETE:

```
    1 reference
    private void button2_Click(object sender, EventArgs e)
    {
        con.Open();
        string query = "DELETE FROM CUSTOMER_TABLE WHERE Customer_ID='" + textCustomer_ID.Text + "'";
        SqlCommand cmd = new SqlCommand(query, con);
        cmd.ExecuteNonQuery();
        con.Close();
        MessageBox.Show("record deleted", "Delete record");
    }
```

## UPDATE:

```
    1 reference
    private void button4_Click(object sender, EventArgs e)
    {
        con.Open();
        string query = "UPDATE CUSTOMER_TABLE SET Country='" + textCountry.Text + "' WHERE Customer_ID = '" + textCustomer_ID.Text + "'";
        SqlCommand cmd = new SqlCommand(query, con);
        cmd.ExecuteNonQuery();
        con.Close();
        MessageBox.Show("record updated", "update record");
    }
```

## SHOW:

```
    1 reference
    private void button3_Click(object sender, EventArgs e)
    {
        con.Open();
        SqlDataAdapter adpt = new SqlDataAdapter("SELECT * FROM CUSTOMER_TABLE", con);
        DataTable dt = new DataTable();
        adpt.Fill(dt);
        dataGridView1.DataSource = dt;
        con.Close();
    }
```

## NEXT:

```
1 reference
private void button5_Click(object sender, EventArgs e)
{
    Form2 f1 = new Form2();
    f1.Show();
    this.Hide();
}
}
```

## “PRODUCT TABLE FORM”

### FORM:

**"PRODUCT TABLE FORM"**

Product\_ID

Description

insert

delete

update

show

previous

next

### INSERT:

```
private void button1_Click(object sender, EventArgs e)
{
    con.Open();
    MessageBox.Show("Connection open");
    SqlCommand cm1;
    string Product_ID = textProduct_ID.Text;
    string Description = textDescription.Text;

    string query = "Insert into Product_TABLE(Product_ID, Description) values ('" + Product_ID + "','" + Description + "')";

    cm1 = new SqlCommand(query, con);
    cm1.ExecuteNonQuery();
    cm1.Dispose();
    con.Close();
}
```



## **DELETE:**

```
1 reference
private void button2_Click(object sender, EventArgs e)
{
    con.Open();
    string query = "DELETE FROM PRODUCT_TABLE WHERE Product_ID= '" + textProduct_ID.Text + "'";
    SqlCommand cmd = new SqlCommand(query, con);
    cmd.ExecuteNonQuery();
    con.Close();
    MessageBox.Show("record deleted", "Delete record");
}
```

## **UPDATE:**

```
1 reference
private void button3_Click(object sender, EventArgs e)
{
    con.Open();
    string query = "UPDATE PRODUCT_TABLE SET Description='" + textDescription.Text + "' WHERE Product_ID = '" + textProduct_ID.Text + "'";
    SqlCommand cmd = new SqlCommand(query, con);
    cmd.ExecuteNonQuery();
    con.Close();
    MessageBox.Show("record updated", "update record");
}
```

## **SHOW:**

```
1 reference
private void button7_Click(object sender, EventArgs e)
{
    con.Open();
    SqlDataAdapter adpt = new SqlDataAdapter("SELECT * FROM PRODUCT_TABLE", con);
    DataTable dt1 = new DataTable();
    adpt.Fill(dt1);
    dataGridView1.DataSource = dt1;
    con.Close();
}
```

## **PREVIOUS:**

```
1 reference
private void button4_Click(object sender, EventArgs e)
{
    Form1 f2 = new Form1();
    f2.Show();
    this.Hide();
}
```



## NEXT:

```
1 reference
private void button5_Click(object sender, EventArgs e)
{
    Form3 f3 = new Form3();
    f3.Show();
    this.Hide();
}
}
```

## “SALES TABLE FORM”

### FORM:

The screenshot shows a Windows Forms application titled "SALES TABLE FORM". The form has a decorative background with pink cherry blossoms and a large pink circle. It contains four text boxes for data entry: "Product\_ID", "Description", "Quantity", and "Price". To the left of these text boxes are five buttons: "insert", "delete", "update", "show", and "previous". The "show" button is disabled, indicated by a grey border. Below the buttons is a large, empty rectangular area, likely for displaying a table of data.

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```

## DELETE:

```
1 reference
private void button2_Click(object sender, EventArgs e)
{
    con.Open();
    string query = "DELETE FROM SALES_TABLE WHERE Product_ID= '" + textProduct_ID.Text + "'";
    SqlCommand cmd = new SqlCommand(query, con);
    cmd.ExecuteNonQuery();
    con.Close();
    MessageBox.Show("record deleted", "Delete record");
}
```

1 reference

## UPDATE:

```
1 reference
private void button3_Click(object sender, EventArgs e)
{
    con.Open();
    string query = "UPDATE SALES_TABLE SET Description='" + textDescription.Text + "',Quantity='" + textQuantity.Text+"',Price='" + textPrice.Text+" ' WHERE Product_ID = " + textProduct_ID.Text;
    SqlCommand cmd = new SqlCommand(query, con);
    cmd.ExecuteNonQuery();
    con.Close();
    MessageBox.Show("record updated", "update record");
}
```

## SHOW:

```
1 reference
private void button4_Click(object sender, EventArgs e)
{
    con.Open();
    SqlDataAdapter adpt = new SqlDataAdapter("SELECT * FROM SALES_TABLE", con);
    DataTable dt1 = new DataTable();
    adpt.Fill(dt1);
    dataGridView1.DataSource = dt1;
    con.Close();
}
```

1 reference

## PREVIOUS:

```
1 reference
private void button5_Click(object sender, EventArgs e)
{
    Form2 f4 = new Form2();
    f4.Show();
    this.Hide();
}

1 reference
private void label1_Click(object sender, EventArgs e)
{
}
}
```

## "WORKING"

### INSERT:

"CUSTOMER TABLE FORM"

Customer ID

Country

insert  
delete  
Update  
show  
Next

Customer_ID	Country
C1	America
C10	United Kingdom
C100	United Kingdom
C1000	Italy
C1001	Italy
C1002	Italy
C101	United Kingdom
C102	United Kingdom
C103	United Kingdom
C104	United Kingdom
C105	United Kingdom
C106	United Kingdom

"CUSTOMER TABLE FORM"

Customer ID

Country

insert  
delete  
Update  
show  
Next

Customer_ID	Country
C991	Italy
C992	Italy
C993	Italy
C994	Italy
C995	Italy
C996	Italy
C997	Italy
C998	Italy
C999	Italy
Customer ID	Country
P22	Pakistan

### UPDATE:

"CUSTOMER TABLE FORM"

Customer ID

Country

insert  
delete  
Update  
show  
Next

Customer_ID	Country
C1	America
C10	United Kingdom
C100	United Kingdom
C1000	Italy
C1001	Italy
C1002	Italy
C101	United Kingdom
C102	United Kingdom
C104	United Kingdom
C105	United Kingdom
C106	United Kingdom

"CUSTOMER TABLE FORM"

Customer ID

Country

insert  
delete  
Update  
show  
Next

Customer_ID	Country
C1	Iceland
C10	United Kingdom
C100	United Kingdom
C1000	Italy
C1001	Italy
C1002	Italy
C101	United Kingdom
C102	United Kingdom
C103	United Kingdom
C104	United Kingdom
C105	United Kingdom
C106	United Kingdom

## DELETE:

**"SALES TABLE FORM"**

Product\_ID: 1002

Description:

Quantity:

Price:

insert delete update show previous

Product_ID	Description	Quantity	InvoiceDate	Price
1002	lovely lollipop mug	6	12/1/2010 8:26	4561
1003	PINK CHERRY L...	6	12/1/2010 8:26	339
1004	Lovely Pigeon Mug	10	12/1/2010 8:26	5001
1006	PINK DOUGHN...	6	12/1/2010 8:26	339
1008	FANCY FONT H...	2	12/1/2010 8:26	765
1010	DOG BOWL CH...	6	12/1/2010 8:26	425
1012	LUNCHBOX WIT...	6	12/1/2010 8:28	185
1014	LOVE BUILDING...	6	12/1/2010 8:28	185
1016	ASSORTED COL...	6	12/1/2010 8:34	425

**"SALES TABLE FORM"**

Product\_ID: 1002

Description:

Quantity:

Price:

insert delete update show previous

Delete record

record deleted

OK

Product_ID	Description	Quantity	InvoiceDate	Price
1002	lovely lollipop mug	6	12/1/2010 8:26	4561
1003	PINK CHERRY L...	6	12/1/2010 8:26	339
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1012	LUNCHBOX WIT...	6	12/1/2010 8:28	185
1014	LOVE BUILDING...	6	12/1/2010 8:28	185
1016	ASSORTED COL...	6	12/1/2010 8:34	425

**"SALES TABLE FORM"**

Product\_ID: 1002

Description:

Quantity:

Price:

insert delete update show previous

Product_ID	Description	Quantity	InvoiceDate	Price
1003	PINK CHERRY L...	6	12/1/2010 8:26	339
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1010	DOG BOWL CH...	6	12/1/2010 8:26	425
1012	LUNCHBOX WIT...	6	12/1/2010 8:28	185
1014	LOVE BUILDING...	6	12/1/2010 8:28	185
1016	ASSORTED COL...	6	12/1/2010 8:34	425
1018	CHRISTMAS CB...	2	12/1/2010 8:34	425