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1. SYSTEM DESCRIPTION (20pts)

1.1. (10pts) System Description

Gallery White Cube started in Cork in 2014 as a small gallery that presents to the public, national art designs by artists since 2014, who are mostly from Co. Cork. In the last year and in response to customer demands, they have expanded their galleries, there are two more galleries one in Galway and another one in Dublin. Gallery White Cube is now able to reach artists and customers from all over Ireland.

Gallery White Cube has three art galleries and each office has their own manager, they studied arts in college or have experience and know the sector. As well on Fridays and Saturdays we have another three-freelancer art teachers that will impart different courses for beginners and advanced learners about painting techniques. The general manager of the three art galleries is the owner of it Ms Cosmo, she is as well the manager in the gallery in Cork.

The owner of the art galleries is starting to feel overwhelming due of the amount of paper work and single excel spreadsheets, for this reason there are constant miscommunication and loss of data between offices.

Customers and artist are starting to notice the disorganization and, the owner of Gallery White Cube fear that this will incur in reductions of monetary benefits, as well Ms Cosmo is very concerned of not meeting expectations of their very demanding customers. To solve this problem, they have been thinking in the creation an SQL Database that will be share across their offices in Ireland. This will help them to keep a better track of their customers and artists as well as allowing an efficient and easy communication between offices.

To create a successful SQL Database, and overcome their problem with the redundancy of repeated data, Gallery White Cube is providing us with all the personal data and descriptions of the tasks that are carried out in their galleries. To the end of providing a nice and user-friendly interface Visual Basic will be used to allow the employees to update, create and remove values, clients etc.

As I mention before, they have five internal employees, Ms Cosmo as owner and main manager of the gallery in Cork, two of them being managers and another three being assistants.

To present their works artist must create an account with them with all their personal details and details about their type of work and date as well as a general portfolio of their past works.

Customers must provide some personal information, as name and phone number or email and submit preferences of art as well as if they are interested in buying art, assisting to our courses or both.

1.2. (10pts) Solving Approach

Design techniques- Modelling

For this project the first to do is think about the business problem, as I mentioned above, it is an art gallery, once I identified all the possible tables, I started adding attributes, to avoid dependencies I normalised the tables up to 3NF. Then I will be using ERDplus software to draw ER Diagram and New Relational Schema, to have a visual overview of my tables, attributes and the relationships between them.

Technical issues

To implement this database, I will be using MySQL Server Management Studio for the database and Visual Basic programming language as a GUI that I will be using to insert, remove and update information into the database. One technical issue could be the incorrect connection to the database.

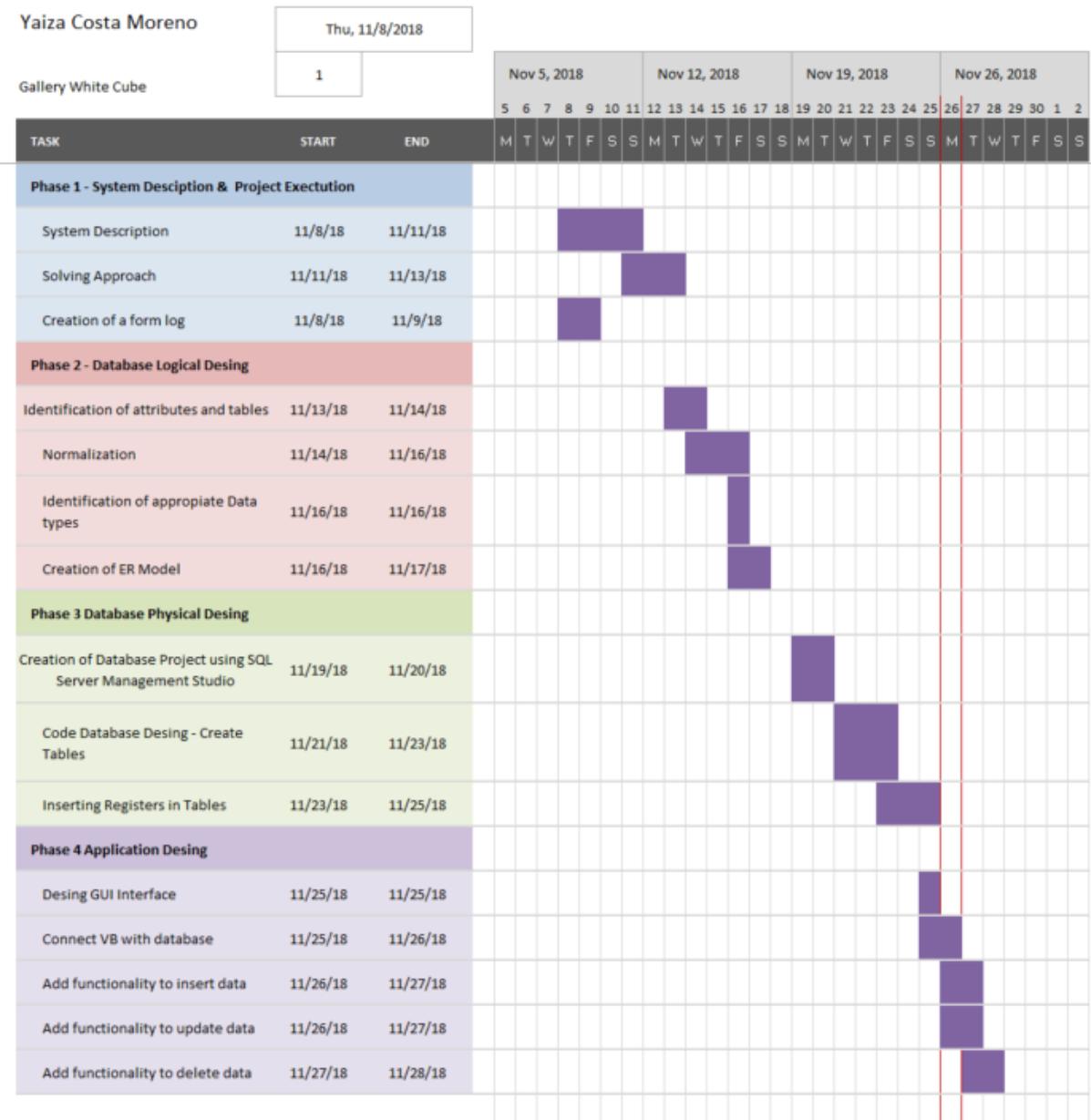
Security

To ensure that the data entered is appropriately and it doesn't get truncated, I will be studying the length possibilities of my attributes, so I will be assigning to each attribute the most appropriate data value, counting that there may be the possibility of a name not to have enough space, the user in the Art Gallery in this case will need to reduce the name in a way that it makes sense(For example if a typical name is between 10-50 characters, but there are people with 3 names and 2 last names and this space may not be enough, second names will be entering in the database as Paul R. O'Connor Peres. In case of having a reduced number of options I will provide them so the user only have to pick them. This will avoid entering incorrect data.

2. PLANIFICATION AND PROJECT EXECUTION (10pts)

(5pts) Chronogram:

Project start 8/11/2018 -- Project finish 28/11/2018

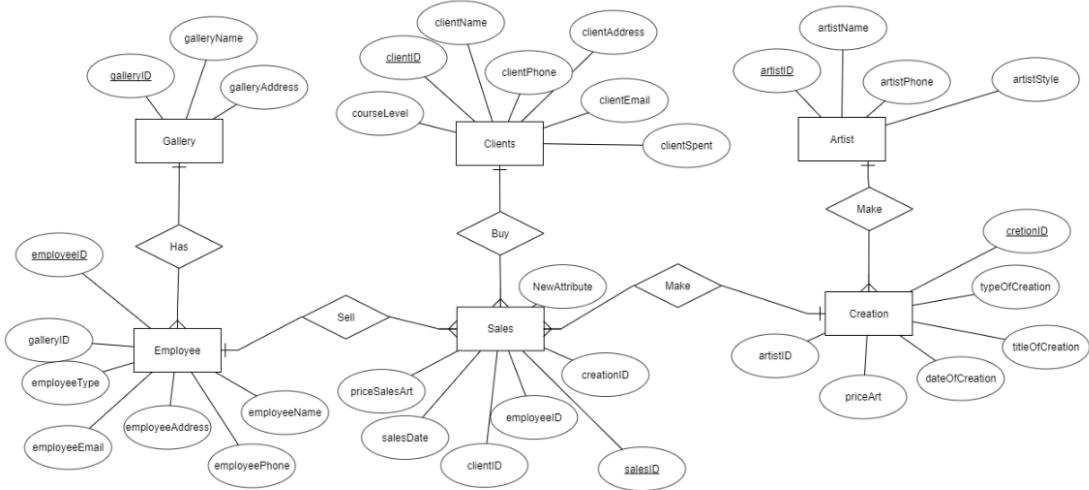


(5pts) In the Appendix A, keep track of your progress in form of a log, describe the progress in the activities as well as the problems and the studied solutions. The log should have at least one entry for each activity in your chronogram.

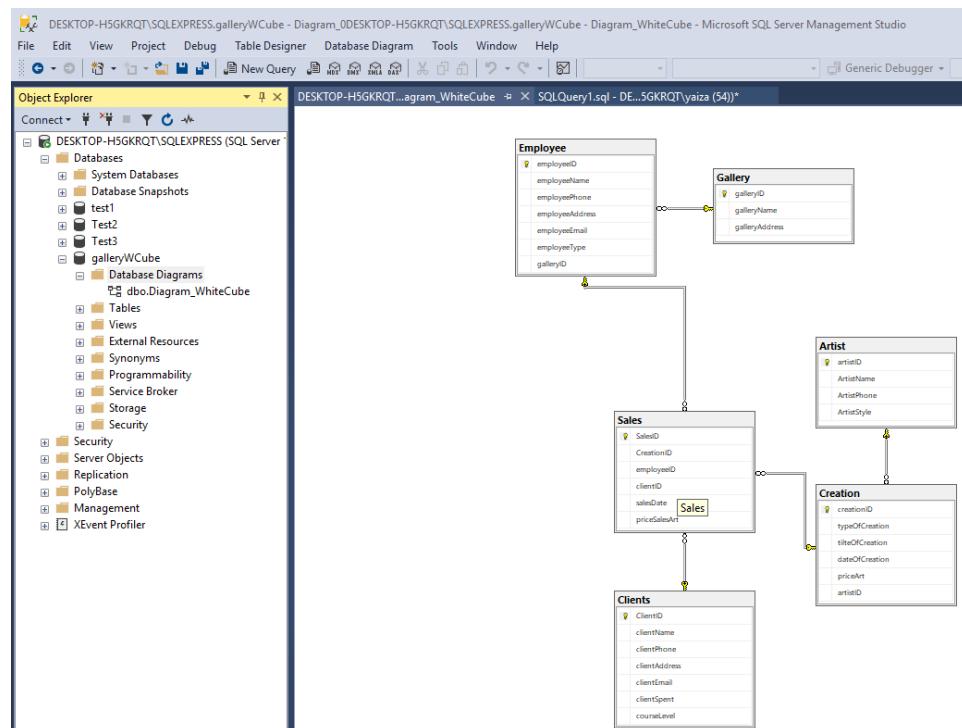
3. DATABASE LOGICAL DESIGN (15pts)

Create a logical ER model

ER Plus



Database diagram – SQL Server Management Studio



Normalization

To create a logical ER model first I wrote down all the attributes that I am going to need, and then I normalise them, separating them into different tables.

Gallery White Cube - **Normalization**

Unnormalized

This is the list with all the attributes

Gallery (galleryID, galleryAddress, galleryName, employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType, artistID, artistName, artistPhone, artistStyle, creationID, typeOfCreation, titleOfCreation, dateofCreation, priceArt, priceSalesArt, artistStyle, salesID, salesDate, clientID, clientName, clientPhone, clientEmail, clientSpent, courseLevel)

1NF

In 1NF, we have to separate the repeating groups into new tables. The primary key of the new table is always a composite key.

Gallery (employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType, galleryID, galleryName, galleryAddress,)

Art Created (employeeID, creationID, clientID, clientName, clientPhone, clientAddress, clientEmail, clientSpent, courseLevel, artistID, artistName, artistPhone, artistStyle, salesID, salesDate, priceArt, priceSalesArt, typeOfCreation, titleOfCreation, dateOfCreation)

2NF

We have to remove partial dependencies, this means when an attribute functionality in a table depend on part of the primary key (which is a composite key). We have to create a separate table with the functionally dependent data and the part of the key on which it depends.

Gallery (employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType, galleryID, galleryNumber, galleryAddress,)

Art Created (creationID, employeeID, clientID, clientName, clientPhone, clientAddress, clientEmail, clientSpent, courseLevel, salesID, salesDate, priceSalesArt)

Artist Details (creationID, artistID, artistName, artistPhone, artistStyle, typeOfCreation, titleOfCreation, dateofCreation, priceArt)

3NF

We have to create separate tables containing the attributes and fields that are functionally depending on it.

Employee (employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType, galleryID)

Gallery (galleryID, galleryName, galleryAddress)

Artist (artistID, artistName, artistPhone, artistStyle)

Creation (creationID, typeOfCreation, titleOfCreation, dateOfCreation, priceArt, artistID)

Clients (clientID, clientName, clientPhone, clientAddress, clientEmail, clientSpent, courseLevel)

Sales (salesID, creationID, employeeID, clientID, salesDate, priceSalesArt)

4. DATABASE PHYSICAL DESIGN (30pts) –14-11-18 to 18-11

Include here the SQL code of your database design.

```
CREATE TABLE Gallery
( galleryID CHAR (2) PRIMARY KEY,
galleryName VARCHAR(30) NOT NULL,
galleryAddress VARCHAR(40) NOT NULL)

CREATE TABLE Employee
(employeeID CHAR (4) PRIMARY KEY,
employeeName VARCHAR(20) NOT NULL,
employeePhone VARCHAR(20) NOT NULL,
employeeAddress VARCHAR(40),
employeeEmail VARCHAR(50) NOT NULL,
employeeType VARCHAR(25) CHECK (employeeType IN ('Manager', 'Sales', 'Teacher')),
galleryID CHAR (2) FOREIGN KEY REFERENCES Gallery (galleryID))

CREATE TABLE Artist
(artistID CHAR (4) PRIMARY KEY,
ArtistName VARCHAR(20) NOT NULL,
ArtistPhone VARCHAR(20) NOT NULL,
ArtistStyle VARCHAR(20) NOT NULL)

CREATE TABLE Creation
(creationID CHAR (4) PRIMARY KEY,
typeOfCreation VARCHAR(10) CHECK (typeOfCreation IN ('Paint', 'Sculpture', 'Other')),
tilteOfCreation VARCHAR(40) NOT NULL,
dateOfCreation date,
priceArt money NOT NULL,
artistID CHAR (4) FOREIGN KEY REFERENCES Artist (artistID))

CREATE TABLE Clients
(ClientID CHAR(4) PRIMARY KEY,
clientName VARCHAR(20) NOT NULL,
clientPhone VARCHAR(20) NOT NULL,
clientAddress VARCHAR(40) NOT NULL,
clientEmail VARCHAR(50) NOT NULL,
clientSpent money NOT NULL,
courseLevel VARCHAR(20))

CREATE TABLE Sales
(SalesID CHAR(4) PRIMARY KEY,
CreationID CHAR (4) FOREIGN KEY REFERENCES Creation(creationID),
employeeID CHAR (4) FOREIGN KEY REFERENCES Employee(employeeID),
clientID CHAR(4) FOREIGN KEY REFERENCES Clients(ClientID),
salesDate date,
priceSalesArt money)
```

Creation of Tables in SQL Server Management Studio

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left lists the database structure, including the 'galleryWCube' database. The central query editor window displays the T-SQL code for creating five tables: Gallery, Employee, Artist, Creation, and Sales. The code includes primary key constraints, non-null constraints, and foreign key references to the 'Gallery' table. The status bar at the bottom indicates a connection to 'Connected (1/1)'.

```
1 CREATE TABLE Gallery
2 ( galleryID CHAR (2) PRIMARY KEY,
3 galleryName VARCHAR(30) NOT NULL,
4 galleryAddress VARCHAR(40) NOT NULL)
5
6 CREATE TABLE Employee
7 (employeeID CHAR (4) PRIMARY KEY,
8 employeeName VARCHAR(20) NOT NULL,
9 employeePhone VARCHAR(20) NOT NULL,
10 employeeAddress VARCHAR(40),
11 employeeEmail VARCHAR(50) NOT NULL,
12 employeeType VARCHAR(25) CHECK (employeeType IN ('Manager', 'Sales', 'Teacher')),
13 galleryID CHAR (2) FOREIGN KEY REFERENCES Gallery (galleryID),
14
15 CREATE TABLE Artist
16 (artistID CHAR (4) PRIMARY KEY,
17 ArtistName VARCHAR(20) NOT NULL,
18 ArtistPhone VARCHAR(20) NOT NULL,
19 ArtistStyle VARCHAR(20) NOT NULL)
20
21 CREATE TABLE Creation
22 (creationID CHAR (4) PRIMARY KEY,
23 typeOfCreation VARCHAR(10) CHECK (typeOfCreation IN ('Paint', 'Sculpture', 'Other')),
24 titleOfCreation VARCHAR(40) NOT NULL,
25 dateOfCreation date,
26 priceArt money NOT NULL,
27 artistID CHAR (4) FOREIGN KEY REFERENCES Artist (artistID))
28
29 CREATE TABLE Clients
30 (ClientID CHAR(4) PRIMARY KEY,
31 clientName VARCHAR(20) NOT NULL,
32 clientPhone VARCHAR(20) NOT NULL,
33 clientAddress VARCHAR(40) NOT NULL,
34 clientEmail VARCHAR(50) NOT NULL,
35 clientSpent money NOT NULL,
36 courseLevel VARCHAR(20))
37
38 CREATE TABLE Sales
39 (SalesID CHAR(4) PRIMARY KEY,
40 CreationID CHAR (4) FOREIGN KEY REFERENCES Creation(creationID),
41 employeeID CHAR (4) FOREIGN KEY REFERENCES Employee(employeeID),
42 ClientID CHAR(4) FOREIGN KEY REFERENCES Clients(ClientID),
43 salesDate date,
44 priceSalesArt money)
45
```

The screenshot shows the Microsoft SQL Server Management Studio interface after the creation queries have been executed. The status bar at the bottom indicates 'Commands completed successfully.' The message pane at the bottom right also shows this confirmation.

```
1 CREATE TABLE Gallery
2 ( galleryID CHAR (2) PRIMARY KEY,
3 galleryName VARCHAR(30) NOT NULL,
4 galleryAddress VARCHAR(40) NOT NULL)
5
6 CREATE TABLE Employee
7 (employeeID CHAR (4) PRIMARY KEY,
8 employeeName VARCHAR(20) NOT NULL,
9 employeePhone VARCHAR(20) NOT NULL,
10 employeeAddress VARCHAR(40),
11 employeeEmail VARCHAR(50) NOT NULL,
12 employeeType VARCHAR(25) CHECK (employeeType IN ('Manager', 'Sales', 'Teacher')),
13 galleryID CHAR (2) FOREIGN KEY REFERENCES Gallery (galleryID),
14
15 CREATE TABLE Artist
16 (artistID CHAR (4) PRIMARY KEY,
17 ArtistName VARCHAR(20) NOT NULL,
18 ArtistPhone VARCHAR(20) NOT NULL,
19 ArtistStyle VARCHAR(20) NOT NULL)
20
21 CREATE TABLE Creation
22 (creationID CHAR (4) PRIMARY KEY,
23 typeOfCreation VARCHAR(10) CHECK (typeOfCreation IN ('Paint', 'Sculpture', 'Other')))
```

Data Types

To make sure I am not using more space than is needed I create a table with the attributes description and their data type and length.

Employee

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
EmployeeID	ID of the employee	Primary	char	4		
EmployeeName	Name of the employee		varchar	20		
employeePhone	Phone of the employee		varchar	11		
employeeAddress	Address on the employee		varchar	20		
employeeEmail	Email of the employee		varchar	50		
employeeType	Job done by the employee		varchar	25	3 options	Manager Sales Teacher
galleryID	ID of the gallery	Foreign Key	char	2	Must match a record in table gallery.	

Gallery

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
galleryID	ID of the Gallery	Primary	char	2		
galleryName	Name of the Gallery		varchar	30		
galleryAddress	Address of the Gallery		varchar	40		

Artist

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
artistID	ID of the artist	Primary	char	4		
artistName	Name of the artist		varchar	20		
artistPhone	Phone number of the artist		varchar	50		
artistStyle	Style of the artist		varchar	20		

Art or Creation

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
creationID	Creation/art ID	Primary	char	4		

typeOfCreation	Type of creation, sculpture, paint etc.		varchar	10	3 options	Paint Sculpture Other
titleOfCreation	Title of the creation		varchar	20		
dateOfCreation	Date of the creation		date			
priceArt	Price that the artist sell the art to the gallery		money			
artistID	ID of the artist	Foreign Key	char		Must match a record in table gallery.	

Clients

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
clientID	ID of the client	Primary	char	4		
clientName	Name of the client		varchar	20		
clientPhone	Phone number of the client		varchar	20		
clientAddress	Address of the client		varchar	20		
clientEmail	Email of the client		varchar	20		
clientSpent	Money spent by the client		money			
courseLevel	Level of the course beginners or advanced		varchar	20		

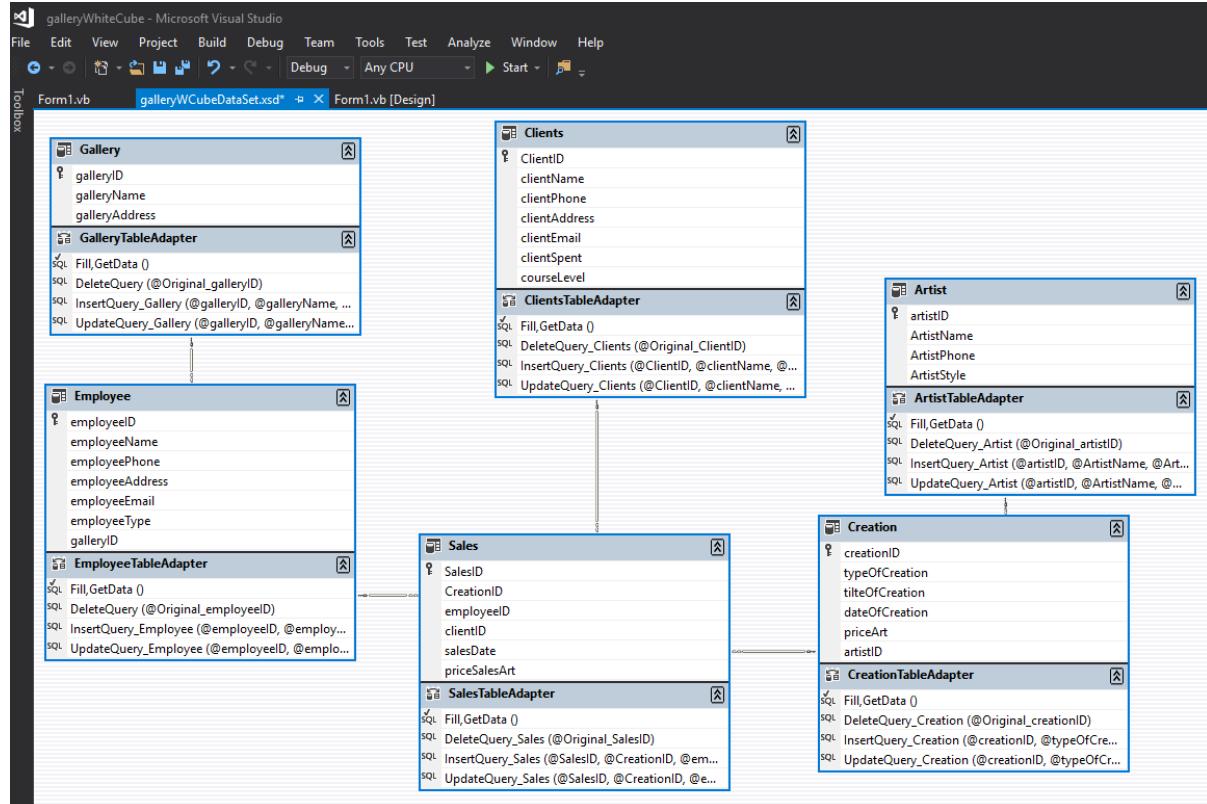
Sales

Attribute Name	Attribute Description	Key	Data Type	Length	Validation/Check	Default Value
salesID	ID of the sale	Primary				
creationID	ID of the creation	Foreign Key	char	4	Must match a record in the table creation	
employeeID	ID of the employee	Foreign Key	char	2	Must match a record in table employees.	
clientID	ID of the client	Foreign Key	char	4	Must match a record in table clients.	
salesDate	Date of the sale/s		date			
priceSalesArt	Money that cost the piece of art to the client.		money			

(10pts) Use Appendix B to include SQL inserts of at least 10 registers per table.
 To solve the business problem that I presented with Gallery White Cube there are two tables that do not meet the minimum register per table (10), Gallery and Employees. I added more rows into the other 4 tables. Sample data in Appendix B.

5. APPLICATION DESIGN (25pts)

VB Design of tables with queries



5.1. (5pts) Create system functionality to insert data into each table of your database.
 In VB there are two ways of inserting, delete or update data from a database system. Once by coding the inserting methods (picture below). And another one using table adapter, because this course is database I will be using table adapter.

```
Public Class frmGallery
    Dim connection As New SqlConnection("Data Source=DESKTOP-H5GKRQ1\SQLEXPRESS;Initial Catalog=galleryWhiteCube;Integrated Security=True")

    Private Sub btnInsertG_Click(sender As Object, e As EventArgs) Handles btnInsertG.Click
        Dim insertquery As String = "insert into gallery (galleryid, galleryname, galleryaddress) values(" & txtBGalleryID.Text & "," & txtBGalleryName.Text & "," & txtBGalleryAddress.Text & ")"
        executequery(insertquery)
        MessageBox.Show("data inserted")
        frmGallery_Load(sender, e)
    End Sub

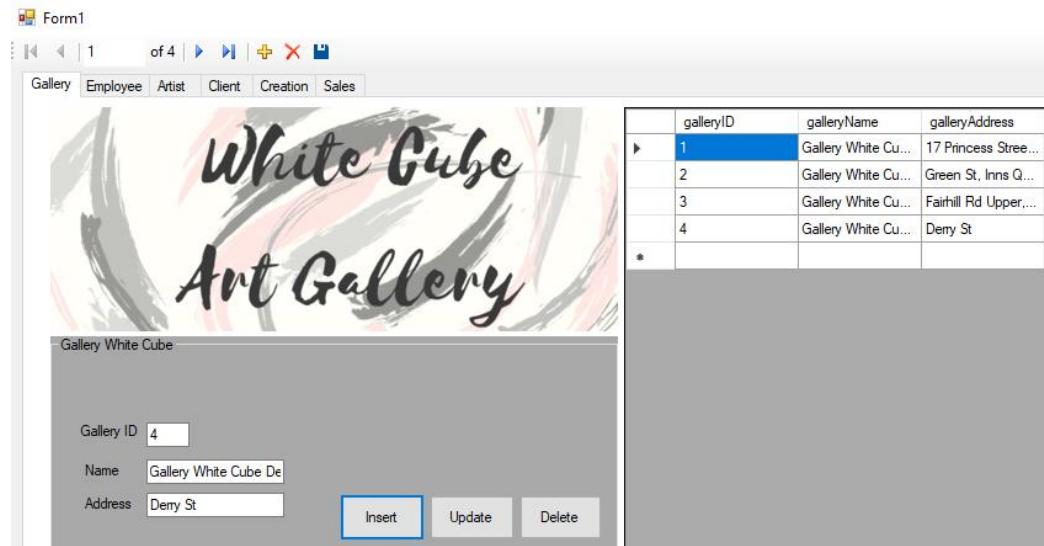
    Public Sub executequery(query As String)
```

Gallery

```
INSERT INTO Gallery
(galleryID, galleryName, galleryAddress)
VALUES (@galleryID,@galleryName,@galleryAddress);
SELECT galleryID, galleryName, galleryAddress FROM Gallery WHERE (galleryID = @galleryID)
```

```
Private Sub
btnInsertGallery_Click_1(sender As Object, e As EventArgs) Handles
btnInsertGallery.Click
    Me.GalleryTableAdapter.InsertQuery_Gallery(Convert.ToInt32(txtGalleryID.Text),
txtGalleryName.Text, txtGalleryAddress.Text)
    Form1_Load(sender, e)
End Sub
```

Example (Could add a line of code to clear the texboxes but for the purpose of demonstration I won't)



Then I checked in SQL Server Management Studio

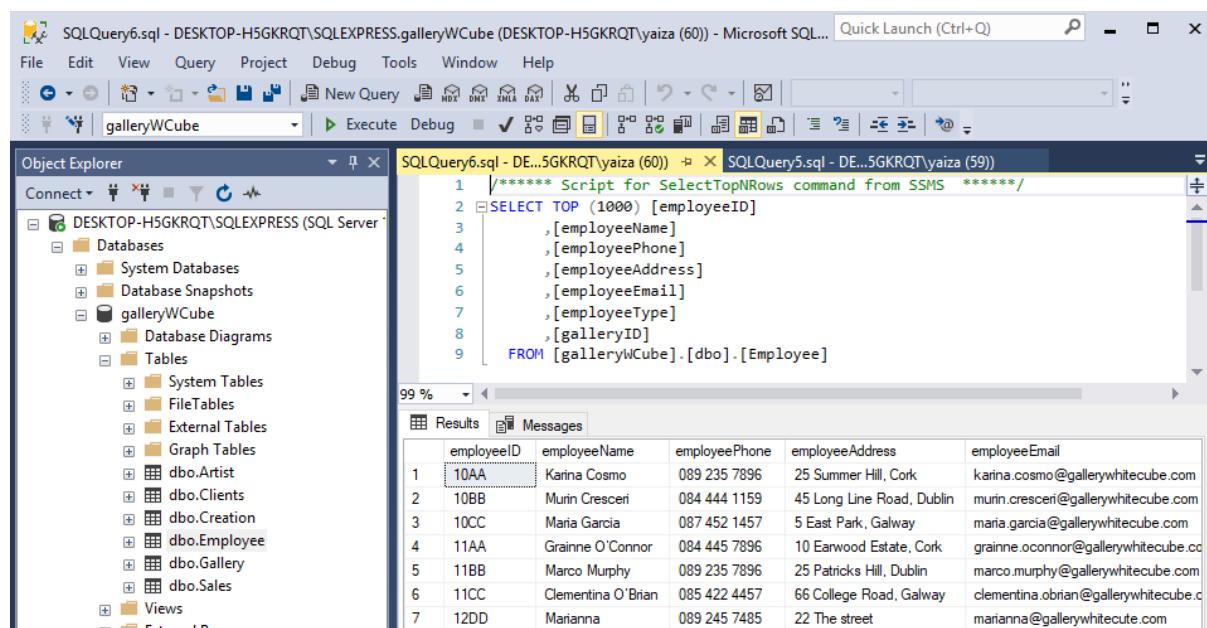
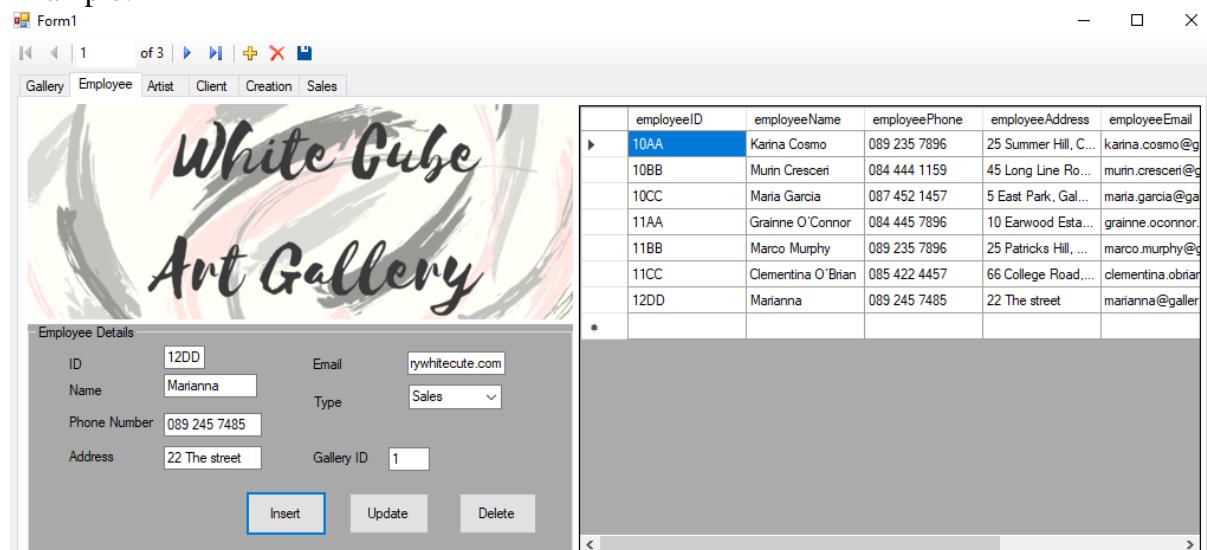
galleryID	galleryName	galleryAddress
1	Gallery White Cube Cork	17 Princess Street, Cork
2	Gallery White Cube Dublin	Green St, Inns Quay, Dublin
3	Gallery White Cube Galway	Fairhill Rd Upper, Galway
4	Gallery White Cube Derry	Derry St

Employee

```
INSERT INTO Employee
    (employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType,
    galleryID)
VALUES
    (@employeeID,@employeeName,@employeePhone,@employeeAddress,@employeeEmail,@employeeType,@ga
    lleryID);
SELECT employeeID, employeeName, employeePhone, employeeAddress, employeeEmail, employeeType,
    galleryID FROM Employee WHERE (employeeID = @employeeID)
```

```
Private Sub btnInsertEmployee_Click(sender As Object, e As EventArgs) Handles
btnInsertEmployee.Click
    Me.EmployeeTableAdapter.InsertQuery_Employee(txtEmpID.Text, txtBEmplName.Text,
    txtBEmplNumber.Text, txtBEmplAdd.Text, txtBEmplEmail.Text, cmbEmType.Text,
    txtBGalleryID.Text)
    Form1_Load(sender, e)
End Sub
```

Example:



Artist

```

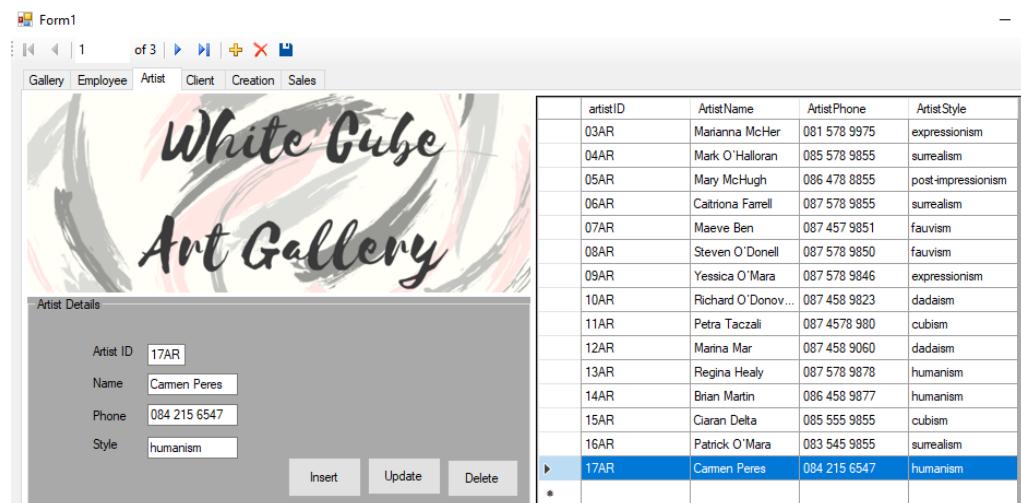
INSERT INTO [dbo].[Artist] ([artistID], [ArtistName], [ArtistPhone], [ArtistStyle]) VALUES (@artistID, @ArtistName,
@ArtistPhone, @ArtistStyle);
SELECT artistID, ArtistName, ArtistPhone, ArtistStyle FROM Artist WHERE (artistID = @artistID)

Private Sub btnInsertArtist_Click(sender As Object, e As EventArgs) Handles
btnInsertArtist.Click
    Dim insertQuery As String = "INSERT INTO Artist (artistID, artistName,
artistPhone, artistStyle) VALUES('" & txtBArtistID.Text & "','" & txtBArtistName.Text
& "','" & txtBArtistPhone.Text & "','" & txtBArtistStyle.Text & "')"

    ExecuteQueryArtist(insertQuery)

    MessageBox.Show("Data Inserted")
    frmGallery_Load(sender, e)
End Sub

```



The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The 'Object Explorer' on the left shows the database structure, including 'DESKTOP-H5GKRQT\SQLEXPRESS (SQL Server)', 'Databases', 'Tables' (containing 'dbo.Artist', 'dbo.Clients', 'dbo.Creation', 'dbo.Employee', 'dbo.Gallery', 'dbo.Sales'), and 'Views'. The 'Results' tab on the right displays the output of a SQL query:

```

1 /****** Script for SelectTopNRows command from SSMS
2 SELECT TOP (1000) [artistID]
3     ,[ArtistName]
4     ,[ArtistPhone]
5     ,[ArtistStyle]
6     FROM [galleryWCube].[dbo].[Artist]

```

The results grid shows the same 17 rows of artist data as the Windows application, matching the screenshot above.

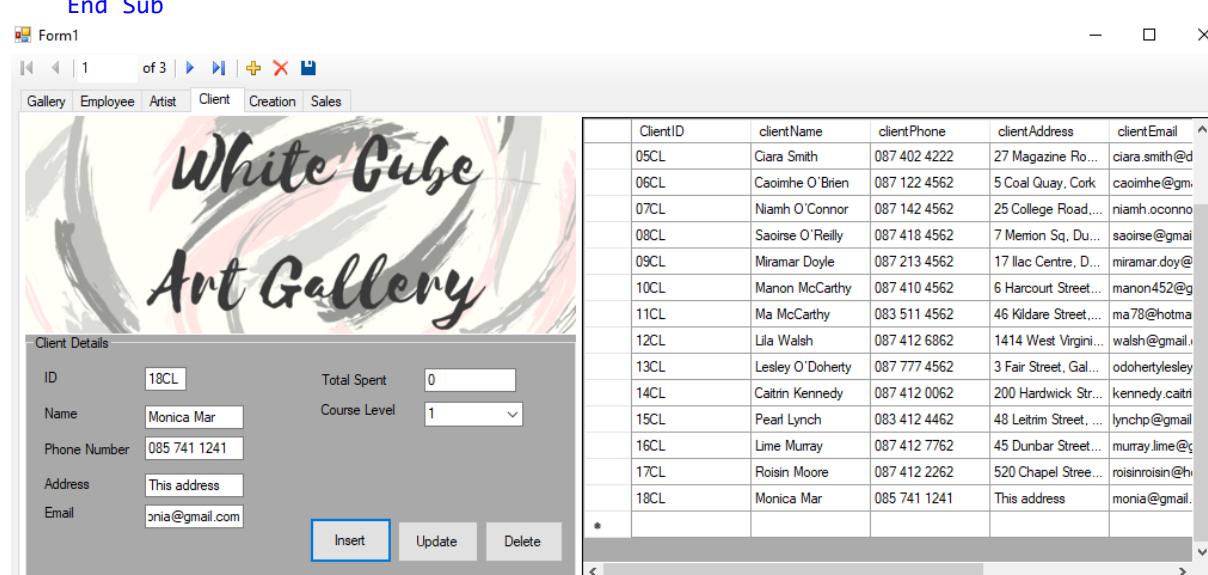
Client

INSERT INTO Clients

```
(ClientID, clientIdName, clientPhone, clientAddress, clientEmail, clientSpent, courseLevel)
VALUES (@ClientID,@clientIdName,@clientPhone,@clientAddress,@clientEmail,@clientSpent,@courseLevel);
SELECT ClientID, clientIdName, clientPhone, clientAddress, clientEmail, clientSpent, courseLevel FROM Clients
WHERE (ClientID = @ClientID)
```

```
Private Sub btnInsertClient_Click(sender As Object, e As EventArgs) Handles
btnInsertClient.Click
```

```
    Me.ClientsTableAdapter.InsertQuery_Clients(txtBClientID.Text,
txtBClientName.Text, txtBClientNumber.Text, txtBClientAddress.Text,
txtBClientEmail.Text, txtBClientSpent.Text, cmbClientCourseLevel.Text)
    Form1_Load(sender, e)
End Sub
```



```
1 /****** Script for SelectTopNRows command from SSMS ******/
2 SELECT TOP (1000) [ClientID]
3     ,[clientIdName]
4     ,[clientPhone]
5     ,[clientAddress]
6     ,[clientEmail]
7     ,[clientSpent]
8     ,[courseLevel]
9  FROM [galleryWCube].[dbo].[Clients]
```

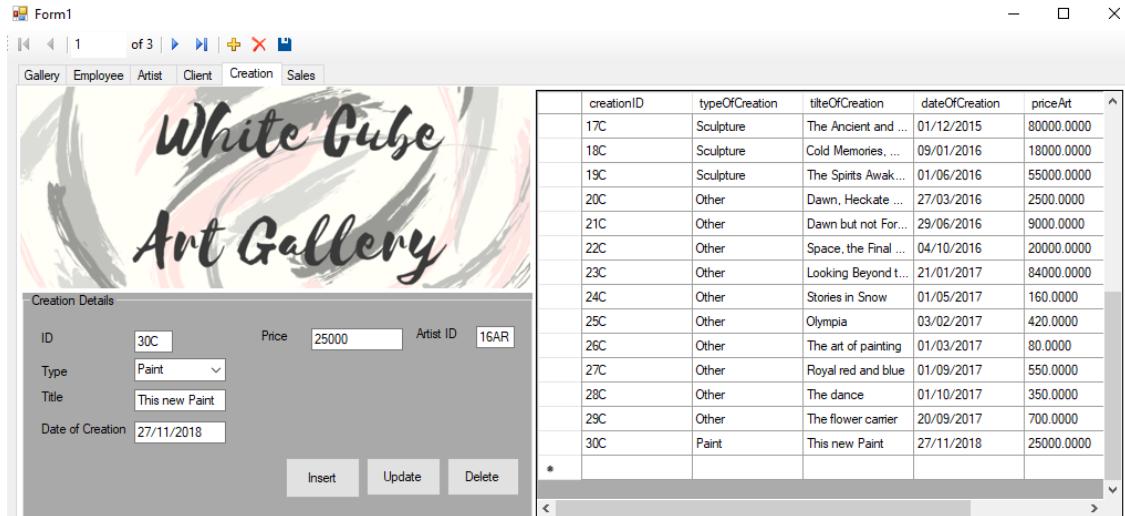
ClientID	clientIdName	clientPhone	clientAddress	clientEmail	clientSpent	courseLevel
1	Siobhan Murphy	085 152 4562	51 Summer Street, Cork	siobhan.murphy@gmail.com	6230	6
2	Ava Kelly	087 419 4560	SN Patricks Hill, Cork	ava@gmail.com	1140	6
3	Aoife O'Sullivan	087 412 4002	2 Orchard Road, Cork	aoife@gmail.com	9550	6
4	Anna Walsh	083 412 4442	56 Broomefield, Cork	a.walsh@hotmail.com	1900	6
5	Ciara Smith	087 402 4222	27 Magazine Road, Cork	ciara.smith@gmail.com	1400	6
6	Caoimhe O'Brien	087 122 4562	5 Coal Quay, Cork	caoimhe@gmail.com	950	6
7	Niamh O'Connor	087 142 4562	25 College Road, Cork	niamh.oconnor@gmail.com	1700	6
8	Saoirse O'Reilly	087 418 4562	7 Memon Sq, Dublin	saoirse@gmail.com	6000	6
9	Miramar Doyle	087 213 4562	17 Ilac Centre, Dublin	miramar.doy@gmail.com	799	6
10	Manon McCarthy	087 410 4562	6 Harcourt Street, Dublin	manon452@gmail.com	1070	6
11	Ma McCarthy	083 511 4562	46 Kildare Street, Dublin	ma78@hotmail.com	7700	6
12	Lila Walsh	087 412 6862	1414 West Virginia Avenue, Galway	walsh@gmail.com	8800	6
13	Lesley O'Doherty	087 777 4562	3 Fair Street, Galway	odohertylesley@hotmail.com	200	6
14	Caitrin Kennedy	087 412 0062	200 Hardwick Street, Galway	kennedy.caitrin@hotmail.com	125	6
15	Pearl Lynch	083 412 4462	48 Leitrim Street, Galway	lynchp@gmail.com	650	6
16	Lime Murray	087 412 7762	45 Dunbar Street, Galway	murray.lime@gmail.com	400	6
17	Roisin Moore	087 412 2262	520 Chapel Street, Cork	roisinroisin@hotmail.com	750	6
18	Monica Mar	085 741 1241	This address	monia@gmail.com	0	6

Creation

INSERT INTO Creation

```
(creationID, typeOfCreation, tilteOfCreation, dateOfCreation, priceArt, artistID)
VALUES (@creationID,@typeOfCreation,@tilteOfCreation,@dateOfCreation,@priceArt,@artistID);
SELECT creationID, typeOfCreation, tilteOfCreation, dateOfCreation, priceArt, artistID FROM Creation WHERE
(creationID = @creationID)
```

```
Private Sub btnInsertCreation_Click(sender As Object, e As EventArgs) Handles
btnInsertCreation.Click
    Me.CreationTableAdapter.InsertQuery_Creation(txtBCreationID.Text,
cmbCreationType.Text, txtBCreationTitle.Text, txtBCreationDate.Text,
txtBCreationPrice.Text, txtBCrArtistID.Text)
    Form1_Load(sender, e)
End Sub
```



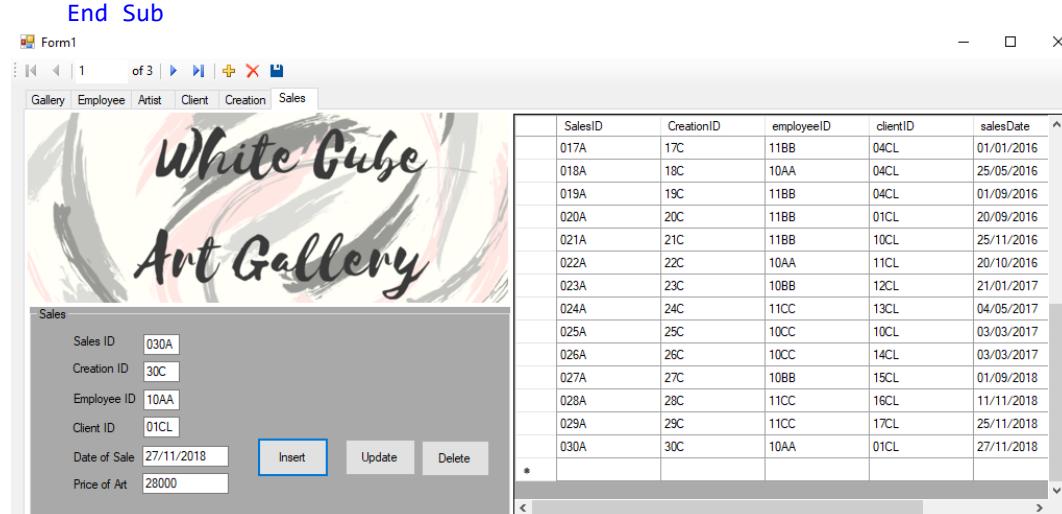
creationID	typeOfCreation	tilteOfCreation	dateOfCreation	priceArt	artistID
2 02C	Paint	Liberté	2013-06-01	21000.00	01AR
3 03C	Paint	Standing in the Winds of Change	2014-01-07	200000.00	02AR
4 04C	Paint	Paris Rody	2013-12-31	350.00	03AR
5 05C	Paint	Triumvirate	2012-03-01	10000.00	01AR
6 06C	Paint	Old Wind	2013-12-05	4000.00	04AR
7 07C	Paint	Tales of the Past	2013-01-12	800.00	06AR
8 08C	Sculpture	Frozen in Time	2013-09-01	8000.00	07AR
9 09C	Sculpture	Larson25	2016-09-01	150000.00	08AR
10 10C	Sculpture	Silent Vigil	2015-06-01	5000.00	05AR
11 11C	Sculpture	The Gatekeepers	2014-07-01	599.00	09AR
12 12C	Sculpture	Winty Sentinels	2015-06-01	150.00	10AR
13 13C	Sculpture	Silent Watch25 Summer Hill, Cork	2015-07-01	52000.00	11AR
14 14C	Sculpture	Snow-Covered Skidegate	2015-03-05	180000.00	08AR
15 15C	Sculpture	Sentinels of the Soul	2015-05-05	82000.00	11AR
16 16C	Sculpture	Ray of Hope	2015-05-01	92000.00	12AR
17 17C	Sculpture	The Ancient and The Timeles	2015-12-01	80000.00	13AR
18 18C	Sculpture	Cold Memories, Warm Dreams	2016-01-09	18000.00	14AR
19 19C	Sculpture	The Spirits Awaken from Winte	2016-06-01	55000.00	12AR
20 20C	Other	Dawn, Hecate Straits	2016-03-27	2500.00	10AR
21 21C	Other	Dawn but not Forgotten	2016-06-29	9000.00	12AR
22 22C	Other	Space, the Final Frontier	2016-10-04	20000.00	05AR
23 23C	Other	Looking Beyond the Present	2017-01-21	84000.00	10AR
24 24C	Other	Stories in Snow	2017-05-01	160.00	14AR
25 25C	Other	Olympia	2017-02-05	420.00	10AR
26 26C	Other	The art of painting	2017-03-01	80.00	15AR
27 27C	Other	Royal red and blue	2017-09-01	550.00	15AR
28 28C	Other	The dance	2017-10-01	350.00	10AR
29 29C	Other	The flower carrier	2017-09-20	700.00	16AR
30 30C	Paint	This new Paint	2018-11-27	25000.00	16AR

Sales

INSERT INTO Sales

```
(SalesID, CreationID, employeeID, clientID, salesDate, priceSalesArt)
VALUES (@SalesID,@CreationID,@employeeID,@clientID,@salesDate,@priceSalesArt);
SELECT SalesID, CreationID, employeeID, clientID, salesDate, priceSalesArt FROM Sales WHERE (SalesID =
@SalesID)
```

```
Private Sub btnInsertSale_Click(sender As Object, e As EventArgs) Handles
btnInsertSale.Click
    Me.SalesTableAdapter.InsertQuery_Sales(txtBSaleID.Text, txtBSalesCreID.Text,
txtBSaleEmployeeID.Text, txtBSaleClieID.Text, txtSalesDate.Text,
txtBSalesPriceArt.Text)
    Form1_Load(sender, e)
End Sub
```



```
1 /***** Script for SelectTopNRows command from SSMS *****
2 SELECT TOP (1000) [SalesID]
3     ,[CreationID]
4     ,[employeeID]
5     ,[clientID]
6     ,[salesDate]
7     ,[priceSalesArt]
8     FROM [galleryWCube].[dbo].[Sales]
```

SalesID	CreationID	employeeID	clientID	salesDate	priceSalesArt
002A	02C	10AA	02CL	2014-05-01	25000.00
003A	03C	10AA	01CL	2014-05-07	220000.00
004A	04C	10AA	03CL	2014-01-01	500.00
005A	05C	10AA	04CL	2014-03-01	12000.00
006A	06C	10AA	05CL	2014-11-01	5000.00
007A	07C	10AA	06CL	2014-01-01	950.00
008A	08C	11BB	05CL	2014-05-01	9000.00
009A	09C	11BB	07CL	2016-10-01	170000.00
010A	10C	10AA	08CL	2015-10-01	6000.00
011A	11C	10AA	09CL	2014-12-01	799.00
012A	12C	11AA	10CL	2015-09-01	180.00
013A	13C	11BB	11CL	2015-12-01	55000.00
014A	14C	10BB	01CL	2015-05-05	200000.00
015A	15C	10AA	02CL	2015-06-25	89000.00
016A	16C	10AA	03CL	2015-09-01	95000.00
017A	17C	11BB	04CL	2016-01-01	100000.00
018A	18C	10AA	04CL	2016-05-25	20000.00
019A	19C	11BB	04CL	2016-09-01	58000.00
020A	20C	11BB	01CL	2016-09-20	3000.00
021A	21C	11BB	10CL	2016-11-25	10000.00
022A	22C	10AA	11CL	2016-10-20	22000.00
023A	23C	10BB	12CL	2017-01-21	88000.00
024A	24C	11CC	13CL	2017-05-04	200.00
025A	25C	10CC	10CL	2017-03-03	520.00
026A	26C	10CC	14CL	2017-03-03	125.00
027A	27C	10BB	15CL	2018-09-01	650.00
028A	28C	11CC	16CL	2018-11-11	400.00
029A	29C	11CC	17CL	2018-11-25	750.00
030A	30C	10AA	01CL	2018-11-27	28000.00

5.2. (5pts) Create system functionality to update data from each table of your database.

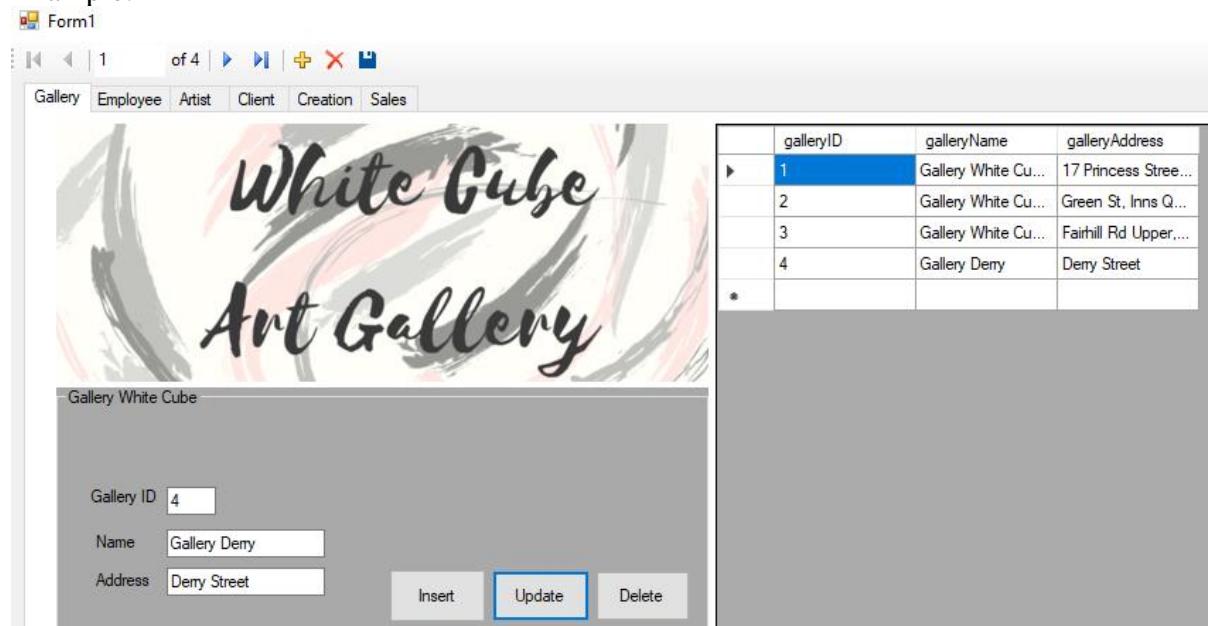
Gallery

```
UPDATE Gallery  
SET      galleryID = @galleryID, galleryName = @galleryName, galleryAddress = @galleryAddress  
WHERE   (galleryID = @Original_galleryID)
```

//I tried to catch errors here as a example

```
Private Sub btnUpdateGallery_Click(sender As Object, e As EventArgs) Handles  
btnUpdateGallery.Click  
    Me.GalleryTableAdapter.UpdateQuery_Gallery(txtGalleryID.Text,  
txtGalleryName.Text, txtGalleryAddress.Text, txtGalleryID.Text)  
  
    Try  
        Me.Validate()  
        Me.GalleryBindingSource.EndEdit()  
        Me.GalleryTableAdapter.Update(Me.GalleryWCubeDataSet.Gallery)  
        MsgBox("Update successful")  
  
    Catch ex As Exception  
        MsgBox("Update failed")  
    End Try  
  
End Sub
```

Example:



The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The title bar indicates the current session is "SQLQuery4.sql - DESKTOP-H5GKRQT\SQLEXPRESS.galleryWCube (DESKTOP-H5GKRQT\yaiza (58)) - Microsoft SQL...". The menu bar includes File, Edit, View, Query, Project, Debug, Tools, Window, and Help. The toolbar contains various icons for database management tasks.

The Object Explorer pane on the left shows the database structure for "DESKTOP-H5GKRQT\SQLEXPRESS (SQL Server)". It includes the root node, Databases (System Databases, Database Snapshots), and the specific database "galleryWCube". Within "galleryWCube", there are Database Diagrams, Tables (System Tables, FileTables, External Tables, Graph Tables), and a reference to "dbo.Artist".

The main central area displays a query window titled "SQLQuery4.sql - DE...5GKRQT\yaiza (58)" containing the following T-SQL script:

```
1 /***** Script for SelectTopNRows command from SSMS *****/
2 SELECT TOP (1000) [galleryID]
3      ,[galleryName]
4      ,[galleryAddress]
5  FROM [galleryWCube].[dbo].[Gallery]
```

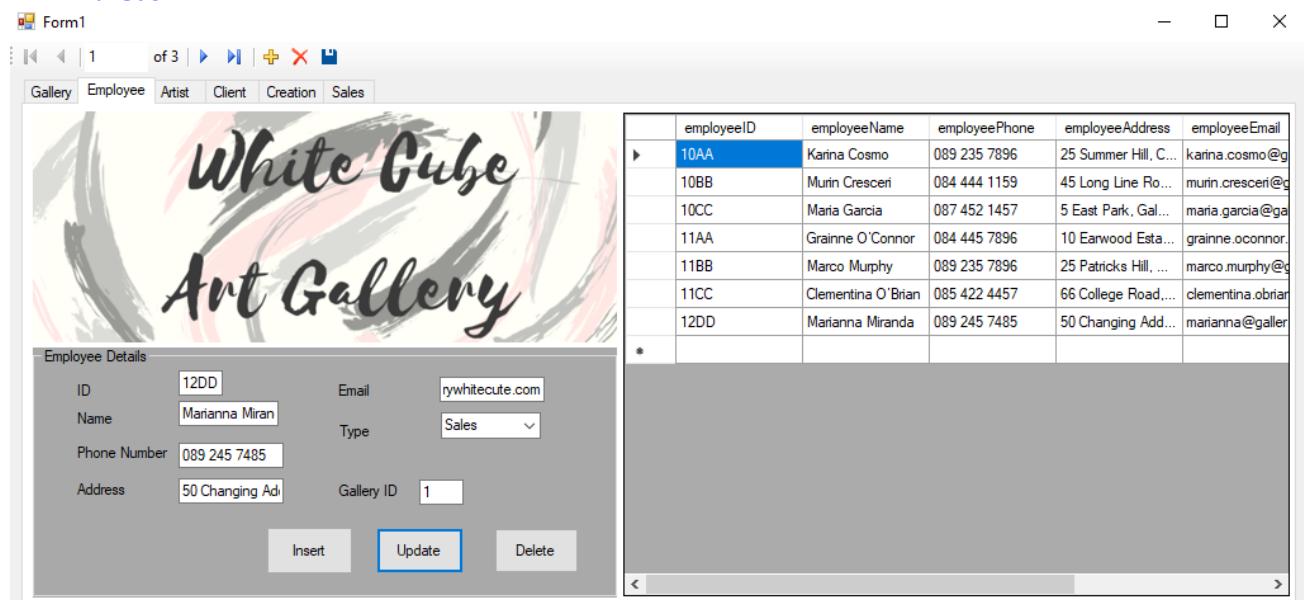
The status bar at the bottom of the query window shows "99 %". Below the query window are two tabs: "Results" and "Messages". The "Results" tab is selected and shows a table with four rows of data:

	galleryID	galleryName	galleryAddress
1	1	Gallery White Cube Cork	17 Princess Street, Cork
2	2	Gallery White Cube Dublin	Green St, Inns Quay, Dublin
3	3	Gallery White Cube Galway	Fairhill Rd Upper, Galway
4	4	Gallery Derry	Derry Street

Employee

```
UPDATE Employee
SET      employeeID = @employeeID, employeeName = @employeeName, employeePhone =
@employeePhone, employeeAddress = @employeeAddress, employeeEmail = @employeeEmail,
        employeeType = @employeeType, galleryID = @galleryID
WHERE  (employeeID != @Original_employeeID)
```

```
Private Sub btnUpdateEmployee_Click(sender As Object, e As EventArgs) Handles
btnUpdateEmployee.Click
    Me.EmployeeTableAdapter.UpdateQuery_Employee(txtEmpID.Text, txtBEmplName.Text,
txtBEmplNumber.Text, txtBEmplAdd.Text, txtBEmplEmail.Text, cmbEmType.Text,
txtBGalleryID.Text, txtEmpID.Text)
    Form1_Load(sender, e)
End Sub
```



employeeID	employeeName	employeePhone	employeeAddress	employeeEmail
10AA	Karina Cosmo	089 235 7896	25 Summer Hill, Cork	karina.cosmo@gallerywhitecube.com
10BB	Murin Cresceri	084 444 1159	45 Long Line Road, Dublin	murin.cresceri@gallerywhitecube.com
10CC	Maria Garcia	087 452 1457	5 East Park, Galway	maria.garcia@gallerywhitecube.com
11AA	Grainne O'Connor	084 445 7896	10 Earwood Estate, Cork	grainne.oconnor@gallerywhitecube.com
11BB	Marco Murphy	089 235 7896	25 Patricks Hill, Dublin	marco.murphy@gallerywhitecube.com
11CC	Clementina O'Brian	085 422 4457	66 College Road, Galway	clementina.obrian@gallerywhitecube.com
12DD	Marianna Miranda	089 245 7485	50 Changing Address	marianna@gallerywhitecube.com

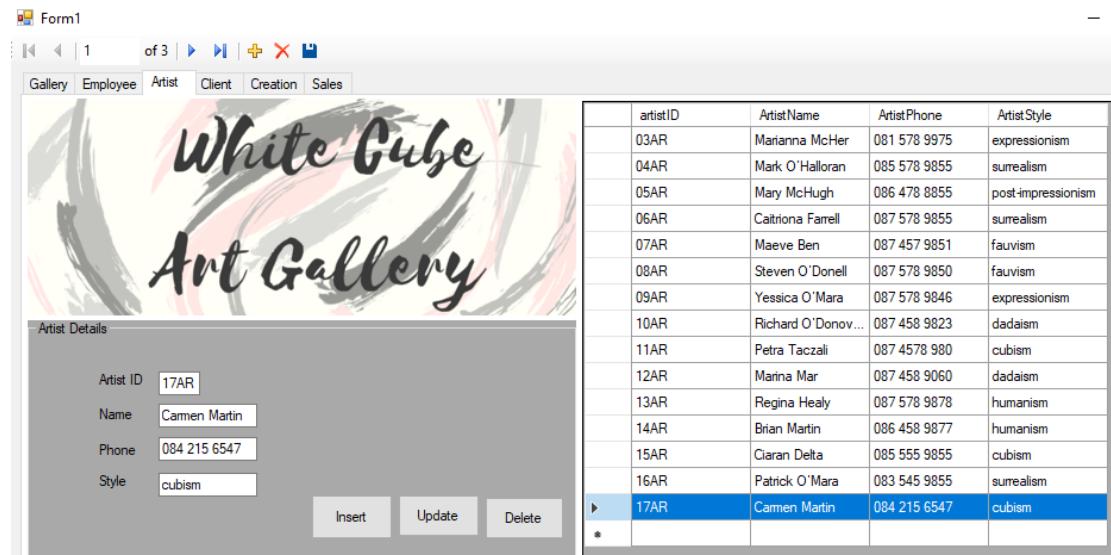
Artist

```

UPDATE Artist
SET      artistID = @artistID, ArtistName = @ArtistName, ArtistPhone = @ArtistPhone, ArtistStyle =
@ArtistStyle
WHERE  (artistID = @Original_artistID)

Private Sub btnUpdateArtist_Click(sender As Object, e As EventArgs) Handles
btnUpdateArtist.Click
    Me.ArtistTableAdapter.UpdateQuery_Artist(txtBArtistID.Text,
txtBArtistName.Text, txtBArtistPhone.Text, txtBArtistStyle.Text, txtBArtistID.Text)
    Form1_Load(sender, e)
End Sub

```

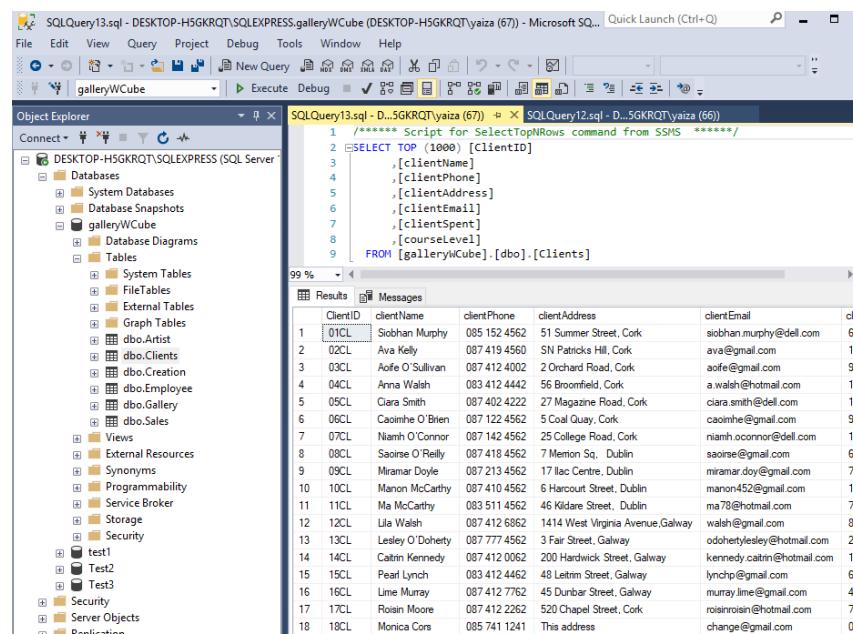
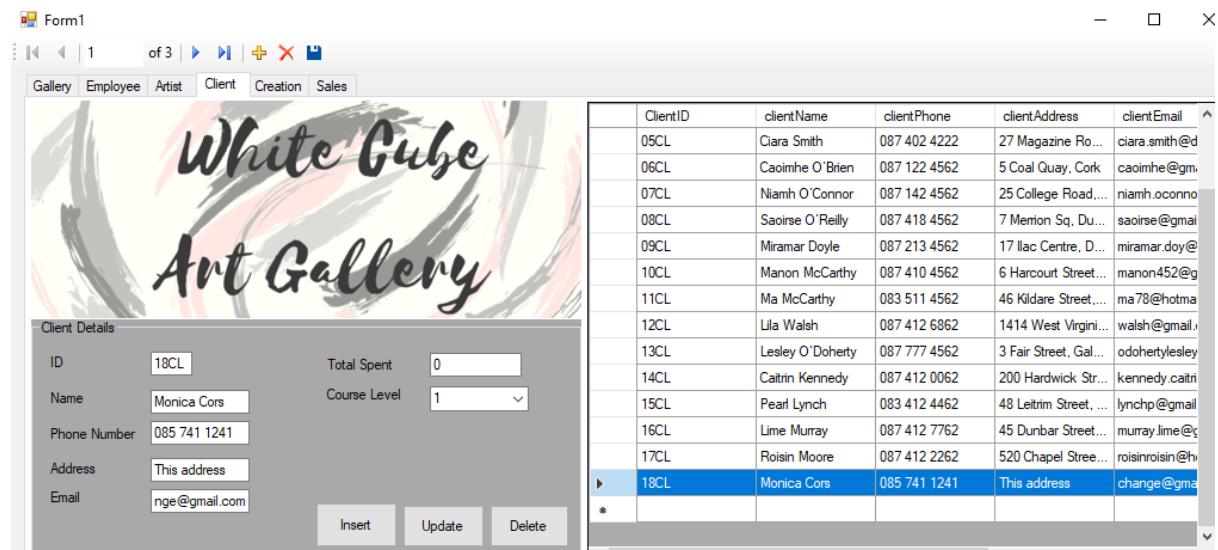


artistID	ArtistName	ArtistPhone	ArtistStyle
01AR	Catalina Peres	083 457 9855	expressionism
02AR	Padraig O'Connell	082 578 9855	impressionism
03AR	Marianna McHer	081 578 9975	expressionism
04AR	Mark O'Halloran	085 578 9855	surrealism
05AR	Mary McHugh	086 478 8855	post-impressionism
06AR	Caitriona Farrell	087 578 9855	surrealism
07AR	Maeve Ben	087 457 9851	fauvism
08AR	Steven O'Donnell	087 578 9850	fauvism
09AR	Yessica O'Mara	087 578 9846	expressionism
10AR	Richard O'Donovan	087 458 9823	dadaism
11AR	Petra Taczali	087 4578 980	cubism
12AR	Marina Mar	087 458 9060	dadaism
13AR	Regina Healy	087 578 9878	humanism
14AR	Brian Martin	086 458 9877	humanism
15AR	Ciaran Delta	085 555 9855	cubism
16AR	Patrick O'Mara	083 545 9855	surrealism
17AR	Carmen Martin	084 215 6547	cubism

Client

```
UPDATE Clients
SET ClientID = @ClientID, clientName = @clientName, clientPhone = @clientPhone, clientAddress =
@clientAddress, clientEmail = @clientEmail, clientSpent = @clientSpent,
courseLevel = @courseLevel
WHERE (ClientID = @Original_ClientID)
```

```
Private Sub btnUpdateClient_Click(sender As Object, e As EventArgs) Handles
btnUpdateClient.Click
    Me.ClientsTableAdapter.UpdateQuery_Clients(txtBClientID.Text,
txtBClientName.Text, txtBClientNumber.Text, txtBClientAddress.Text,
txtBClientEmail.Text, txtBClientSpent.Text, cmbClientCourseLevel.Text,
txtBClientID.Text)
    Form1_Load(sender, e)
End Sub
```

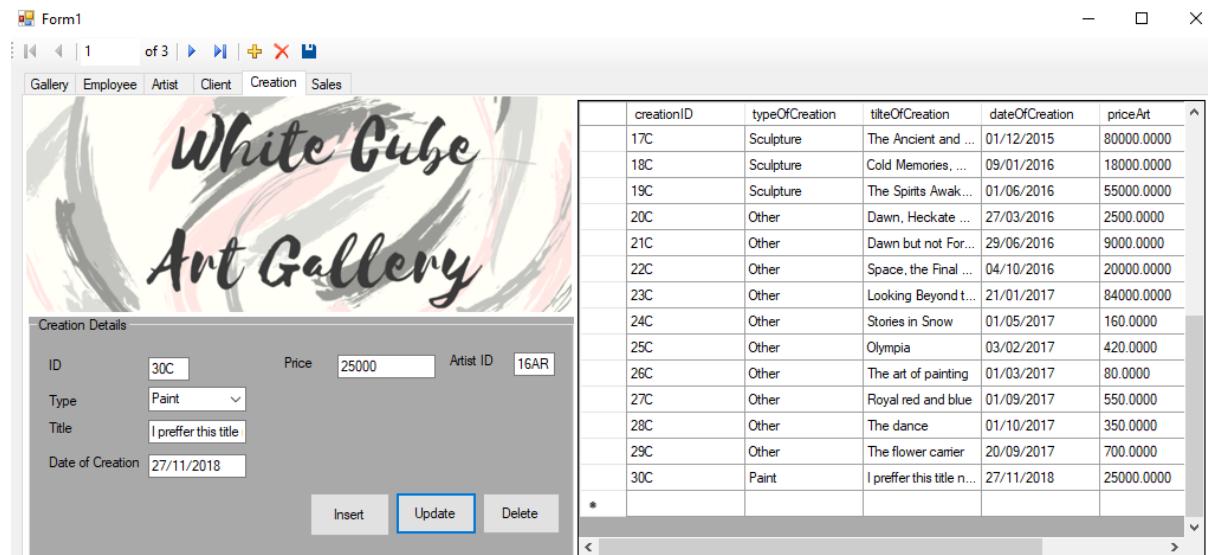


Creation

```
UPDATE Creation
```

```
SET     creationID = @creationID, typeOfCreation = @typeOfCreation, titleOfCreation = @titleOfCreation,
dateOfCreation = @dateOfCreation, priceArt = @priceArt, artistID = @artistID
WHERE   (creationID = @Original_creationID)
```

```
Private Sub btnUpdateCreation_Click(sender As Object, e As EventArgs) Handles
btnUpdateCreation.Click
    Me.CreationTableAdapter.UpdateQuery_Creation(txtBCreationID.Text,
cmbCreationType.Text, txtBCreationTitle.Text, txtBCreationDate.Text,
txtBCreationPrice.Text, txtBCrArtistID.Text, txtBCreationID.Text)
    Form1_Load(sender, e)
End Sub
```



Sales

```

UPDATE Sales
SET      SalesID = @SalesID, CreationID = @CreationID, employeeID = @employeeID, clientID = @clientID,
salesDate = @salesDate, priceSalesArt = @priceSalesArt
WHERE   (SalesID = @Original_SalesID)

Private Sub btnUpdateSales_Click(sender As Object, e As EventArgs) Handles
btnUpdateSales.Click
    Me.SalesTableAdapter.UpdateQuery_Sales(txtBSaleID.Text, txtBSalesCreID.Text,
txtBSaleEmployeeID.Text, txtBSaleClieID.Text, txtSalesDate.Text,
txtBSalesPriceArt.Text, txtBSaleID.Text)
    Form1_Load(sender, e)
End Sub

```

A different client bough the paint 02CL instead of 01CL

The screenshot shows a Windows application window titled "Form1". Inside, there is a tab bar with tabs: Gallery, Employee, Artist, Client, Creation, and Sales. The Sales tab is selected, displaying a form with fields: Sales ID (030A), Creation ID (30C), Employee ID (10AA), Client ID (02CL), Date of Sale (27/11/2018), and Price of Art (28000). Below the form is a large grid table showing a list of sales records.

SalesID	CreationID	employeeID	clientID	salesDate
017A	17C	11BB	04CL	01/01/2016
018A	18C	10AA	04CL	25/05/2016
019A	19C	11BB	04CL	01/09/2016
020A	20C	11BB	01CL	20/09/2016
021A	21C	11BB	10CL	25/11/2016
022A	22C	10AA	11CL	20/10/2016
023A	23C	10BB	12CL	21/01/2017
024A	24C	11CC	13CL	04/05/2017
025A	25C	10CC	10CL	03/03/2017
026A	26C	10CC	14CL	03/03/2017
027A	27C	10BB	15CL	01/09/2018
028A	28C	11CC	16CL	11/11/2018
029A	29C	11CC	17CL	25/11/2018
030A	30C	10AA	02CL	27/11/2018

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The Object Explorer shows a database named "galleryWCube" with various tables like dbo.Artist, dbo.Clients, etc. The Query Editor contains a script for selecting top 10000 rows from the Sales table:

```

SELECT TOP (10000) [SalesID]
,[CreationID]
,[employeeID]
,[clientID]
,[salesDate]
,[priceSalesArt]
FROM [galleryWCube].[dbo].[Sales]

```

The Results grid displays the first 30 rows of the Sales table data.

SalesID	CreationID	employeeID	clientID	salesDate	priceSalesArt
002A	02C	10AA	02CL	2014-05-01	25000.00
003A	03C	10AA	01CL	2014-05-07	22000.00
004A	04C	10AA	03CL	2014-01-01	500.00
005A	05C	10AA	04CL	2014-03-01	12000.00
006A	06C	10AA	05CL	2014-11-01	5000.00
007A	07C	10AA	06CL	2014-10-01	950.00
008A	08C	11BB	05CL	2014-05-01	9000.00
009A	09C	11BB	07CL	2016-10-01	170000.00
010A	10C	10AA	08CL	2015-10-01	6000.00
011A	11C	10AA	09CL	2014-12-01	790.00
012A	12C	11AA	10CL	2015-09-01	180.00
013A	13C	11BB	11CL	2015-12-01	55000.00
014A	14C	10BB	01CL	2015-05-05	200000.00
015A	15C	10AA	02CL	2015-06-25	89000.00
016A	16C	10AA	03CL	2015-09-01	95000.00
017A	17C	11BB	04CL	2016-01-01	100000.00
018A	18C	10AA	04CL	2016-05-25	20000.00
019A	19C	11BB	04CL	2016-09-01	58000.00
020A	20C	11BB	01CL	2016-09-20	3000.00
021A	21C	11BB	10CL	2016-11-25	10000.00
022A	22C	10AA	11CL	2016-10-20	22000.00
023A	23C	10BB	12CL	2017-01-21	88000.00
024A	24C	11CC	13CL	2017-05-04	200.00
025A	25C	10CC	10CL	2017-03-03	520.00
026A	26C	10CC	14CL	2017-03-03	125.00
027A	27C	10BB	15CL	2018-09-01	650.00
028A	28C	11CC	16CL	2018-11-11	400.00
029A	29C	11CC	17CL	2018-11-25	750.00
030A	30C	10AA	02CL	2018-11-27	28000.00

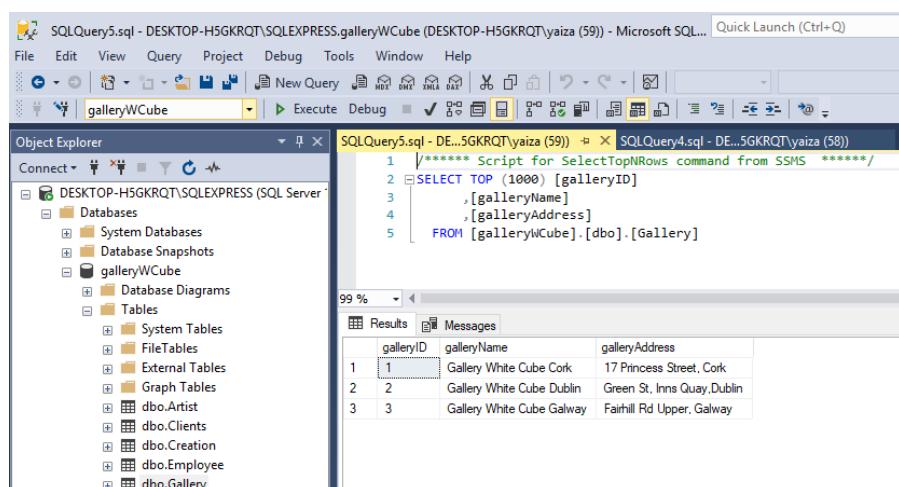
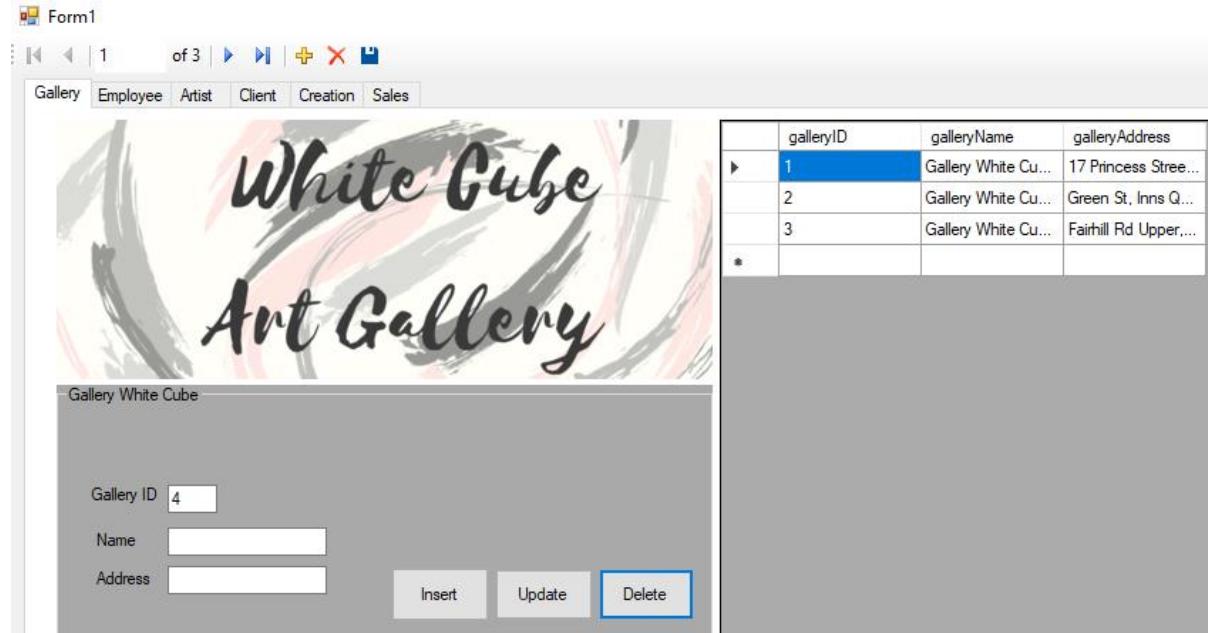
5.3. (5pts) Create system functionality to delete data from each table of your database.

Gallery

```
DELETE FROM Gallery
WHERE (galleryID = @Original_galleryID)
```

```
Private Sub btnDeleteGallery_Click(sender As Object, e As EventArgs) Handles
btnDeleteGallery.Click
    Me.GalleryTableAdapter.DeleteQuery(Convert.ToInt32(txtGalleryID.Text))
    Form1_Load(sender, e)
End Sub
```

Example Remove GalleryID = 4



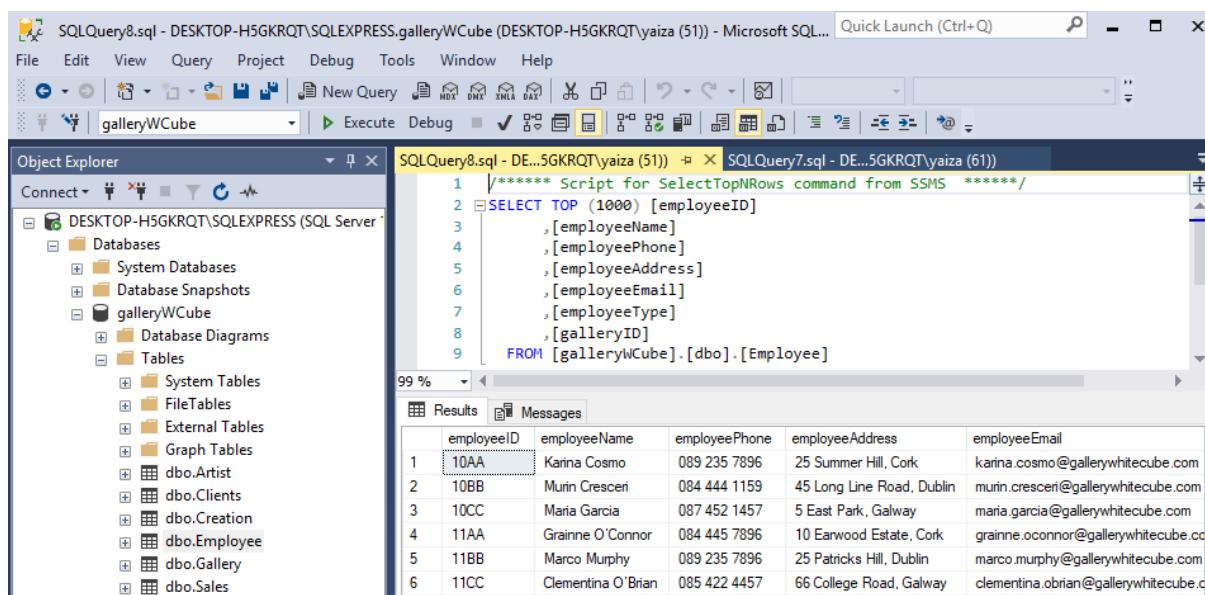
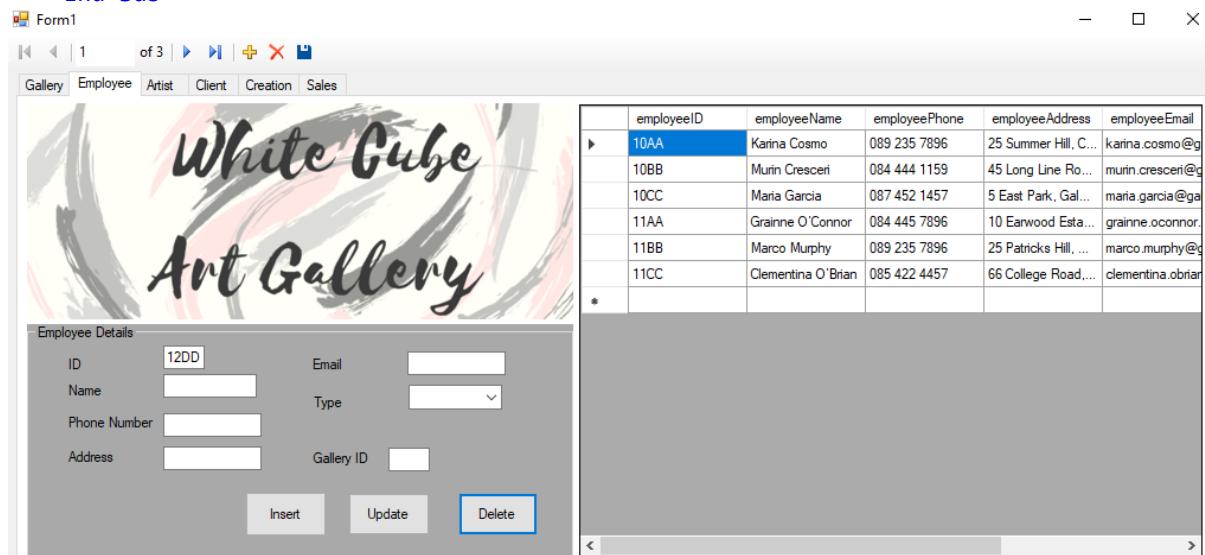
Employee

```
Private Sub btnDeleteEmployee_Click(sender As Object, e As EventArgs) Handles
btnDeleteEmployee.Click
    Me.EmployeeTableAdapter.DeleteQuery(Convert.ToInt32(txtEmpID.Text))
```

```

    Form1_Load(sender, e)
End Sub

```



Artist

```

DELETE FROM Artist
WHERE (artistID = @Original_artistID)

```

```

Private Sub btnDeleteArtist_Click(sender As Object, e As EventArgs) Handles
btnDeleteArtist.Click
    Me.ArtistTableAdapter.DeleteQuery_Artist(txtBArtistID.Text)
    Form1_Load(sender, e)
End Sub

```

artistID	ArtistName	ArtistPhone	ArtistStyle
02AR	Padraig O'Connell	082 578 9855	impressionism
03AR	Marianna McHer	081 578 9975	expressionism
04AR	Mark O'Halloran	085 578 9855	surrealism
05AR	Mary McHugh	086 478 8855	post-impressionism
06AR	Caitriona Farrell	087 578 9855	surrealism
07AR	Maeve Ben	087 457 9851	fauvism
08AR	Steven O'Donnell	087 578 9850	fauvism
09AR	Yessica O'Mara	087 578 9846	expressionism
10AR	Richard O'Donovan	087 458 9823	dadaism
11AR	Petra Taczali	087 4578 980	cubism
12AR	Marina Mar	087 458 9060	dadaism
13AR	Regina Healy	087 578 9878	humanism
14AR	Brian Martin	086 458 9877	humanism
15AR	Ciaran Delta	085 555 9855	cubism
16AR	Patrick O'Mara	083 545 9855	surrealism
*			

artistID	ArtistName	ArtistPhone	ArtistStyle
01AR	Catalina Peres	083 457 9855	expressionism
02AR	Padraig O'Connell	082 578 9855	impressionism
03AR	Marianna McHer	081 578 9975	expressionism
04AR	Mark O'Halloran	085 578 9855	surrealism
05AR	Mary McHugh	086 478 8855	post-impressionism
06AR	Caitriona Farrell	087 578 9855	surrealism
07AR	Maeve Ben	087 457 9851	fauvism
08AR	Steven O'Donnell	087 578 9850	fauvism
09AR	Yessica O'Mara	087 578 9846	expressionism
10AR	Richard O'Donovan	087 458 9823	dadaism
11AR	Petra Taczali	087 4578 980	cubism
12AR	Marina Mar	087 458 9060	dadaism
13AR	Regina Healy	087 578 9878	humanism
14AR	Brian Martin	086 458 9877	humanism
15AR	Ciaran Delta	085 555 9855	cubism
16AR	Patrick O'Mara	083 545 9855	surrealism

Client

```

DELETE FROM Clients
WHERE (ClientID = @Original_ClientID)

```

```

Private Sub btnDeleteClient_Click(sender As Object, e As EventArgs) Handles
btnDeleteClient.Click
    Me.ClientsTableAdapter.DeleteQuery_Clients(txtBClientID.Text)

```

```

    Form1_Load(sender, e)
End Sub

```

ClientID	clientName	clientPhone	clientAddress	clientEmail
04CL	Anna Walsh	083 412 4442	56 Broomfield, Cork	a.walsh@hotmail.com
05CL	Ciara Smith	087 402 4222	27 Magazine Ro...	ciara.smith@gmail.com
06CL	Caoimhe O'Brien	087 122 4562	5 Coal Quay, Cork	caoimhe@gmail.com
07CL	Niamh O'Connor	087 142 4562	25 College Road...	niamh.oconnor@gmail.com
08CL	Saoirse O'Reilly	087 418 4562	7 Memion Sq, Du...	saoirse@gmail.com
09CL	Miramar Doyle	087 213 4562	17 Ilac Centre, D...	miramar.doy@gmail.com
10CL	Manon McCarthy	087 410 4562	6 Harcourt Street...	manon452@gmail.com
11CL	Ma McCarthy	083 511 4562	46 Kildare Street...	ma78@hotmail.com
12CL	Lila Walsh	087 412 6862	1414 West Virginia...	walsh@gmail.com
13CL	Lesley O'Doherty	087 777 4562	3 Fair Street, Gal...	odohertylesley@gmail.com
14CL	Caitrin Kennedy	087 412 0062	200 Hardwick Str...	kennedy.caitrin@gmail.com
15CL	Pearl Lynch	083 412 4462	48 Leitrim Street, ...	lynchp@gmail.com
16CL	Lime Murray	087 412 7762	45 Dunbar Street...	murray.lime@gmail.com
17CL	Roisin Moore	087 412 2262	520 Chapel Street...	roisinroisin@hotmail.com

ClientID	clientName	clientPhone	clientAddress	clientEmail
01CL	Siobhan Murphy	085 152 4562	51 Summer Street, Cork	siobhan.murphy@dell.com
02CL	Ava Kelly	087 419 4560	SN Patricks Hill, Cork	ava@gmail.com
03CL	Aoife O'Sullivan	087 412 4002	2 Orchard Road, Cork	aoife@gmail.com
04CL	Anna Walsh	083 412 4442	56 Broomfield, Cork	a.walsh@hotmail.com
05CL	Ciara Smith	087 402 4222	27 Magazine Road, Cork	ciara.smith@dell.com
06CL	Caoimhe O'Brien	087 122 4562	5 Coal Quay, Cork	caoimhe@gmail.com
07CL	Niamh O'Connor	087 142 4562	25 College Road, Cork	niamh.oconnor@dell.com
08CL	Saoirse O'Reilly	087 418 4562	7 Memion Sq, Dublin	saoirse@gmail.com
09CL	Miramar Doyle	087 213 4562	17 Ilac Centre, Dublin	miramar.doy@gmail.com
10CL	Manon McCarthy	087 410 4562	6 Harcourt Street, Dublin	manon452@gmail.com
11CL	Ma McCarthy	083 511 4562	46 Kildare Street, Dublin	ma78@hotmail.com
12CL	Lila Walsh	087 412 6862	1414 West Virginia Avenue, Galway	walsh@gmail.com
13CL	Lesley O'Doherty	087 777 4562	3 Fair Street, Galway	odohertylesley@hotmail.com
14CL	Caitrin Kennedy	087 412 0062	200 Hardwick Street, Galway	kennedy.caitrin@hotmail.com
15CL	Pearl Lynch	083 412 4462	48 Leitrim Street, Galway	lynchp@gmail.com
16CL	Lime Murray	087 412 7762	45 Dunbar Street, Galway	murray.lime@gmail.com
17CL	Roisin Moore	087 412 2262	520 Chapel Street, Cork	roisinroisin@hotmail.com

Creation

```
DELETE FROM [dbo].[Creation] WHERE ([creationID] = @Original_creationID)
```

```

Private Sub btnDeleteCreation_Click(sender As Object, e As EventArgs) Handles
btnDeleteCreation.Click
    Me.CreationTableAdapter.DeleteQuery_Creation(txtBCreationID.Text)
    Form1_Load(sender, e)
End Sub

```

Form1

of 3 | < > + X

Gallery Employee Artist Client Creation Sales

creationID	typeOfCreation	titleOfCreation	dateOfCreation	priceArt
16C	Sculpture	Ray of Hope	01/05/2015	92000.0000
17C	Sculpture	The Ancient and ...	01/12/2015	80000.0000
18C	Sculpture	Cold Memories, ...	09/01/2016	18000.0000
19C	Sculpture	The Spirits Awaken...	01/06/2016	55000.0000
20C	Other	Dawn, Hecate Str...	27/03/2016	2500.0000
21C	Other	Dawn but not For...	29/06/2016	9000.0000
22C	Other	Space, the Final ...	04/10/2016	20000.0000
23C	Other	Looking Beyond t...	21/01/2017	84000.0000
24C	Other	Stories in Snow	01/05/2017	160.0000
25C	Other	Olympia	03/02/2017	420.0000
26C	Other	The art of painting	01/03/2017	80.0000
27C	Other	Royal red and blue	01/09/2017	550.0000
28C	Other	The dance	01/10/2017	350.0000
29C	Other	The flower carrier	20/09/2017	700.0000

SQLQuery20.sql - DESKTOP-H5GKRQT\SQLEXPRESS.gallery\WCube (DESKTOP-H5GKRQT\yaiza (74)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Object Explorer

SQLQuery20.sql - D..5GKRQT\yaiza (74) + X SQLQuery19.sql - D..5GKRQT\yaiza (73)

```

1 /***** Script for SelectTopNRows command from SSMS *****/
2 SELECT TOP (1000) [creationID]
3     ,[typeOfCreation]
4     ,[titleOfCreation]
5     ,[dateOfCreation]
6     ,[priceArt]
7     ,[artistID]
8 FROM [galleryWCube].[dbo].[Creation]

```

Results Messages

creationID	typeOfCreation	titleOfCreation	dateOfCreation	priceArt	artistID
01C	Paint	Sunset	2013-01-10	18000.00	01AR
02C	Paint	Liberté	2013-06-01	21000.00	01AR
03C	Paint	Standing in the Winds of Change	2014-01-07	200000.00	02AR
04C	Paint	Paris Rody	2013-12-31	350.00	03AR
05C	Paint	Triumvirate	2012-03-01	10000.00	01AR
06C	Paint	Old Wind	2013-12-05	4000.00	04AR
07C	Paint	Tales of the Past	2013-01-12	800.00	06AR
08C	Sculpture	Frozen in Time	2013-09-01	8000.00	07AR
09C	Sculpture	Larson25	2016-09-01	150000.00	08AR
10C	Sculpture	Silent Vigil	2015-06-01	5000.00	05AR
11C	Sculpture	The Gatekeepers	2014-07-01	599.00	09AR
12C	Sculpture	Wintry Sentinels	2015-06-01	150.00	10AR
13C	Sculpture	Silent Watch25 Summer Hill, Cork	2015-07-01	52000.00	11AR
14C	Sculpture	Snow-Covered Skidgate	2015-03-05	180000.00	08AR
15C	Sculpture	Sentinels of the Soul	2015-05-05	82000.00	11AR
16C	Sculpture	Ray of Hope	2015-05-01	92000.00	12AR
17C	Sculpture	The Ancient and The Timeles	2015-12-01	80000.00	13AR
18C	Sculpture	Cold Memories, Warm Dreams	2016-01-09	18000.00	14AR
19C	Sculpture	The Spirits Awaken from Winte	2016-06-01	55000.00	12AR
20C	Other	Dawn, Hecate Strats	2016-03-27	2500.00	10AR
21C	Other	Dawn but not Forgotten	2016-06-29	9000.00	12AR
22C	Other	Space, the Final Frontier	2016-10-04	20000.00	05AR
23C	Other	Looking Beyond the Present	2017-01-21	84000.00	10AR
24C	Other	Stories in Snow	2017-05-01	160.00	14AR
25C	Other	Olympia	2017-02-03	420.00	10AR
26C	Other	The art of painting	2017-03-01	80.00	15AR
27C	Other	Royal red and blue	2017-09-01	550.00	15AR
28C	Other	The dance	2017-10-01	350.00	10AR
29C	Other	The flower carrier	2017-09-20	700.00	16AR

Sales

```
DELETE FROM [dbo].[Sales] WHERE ([SalesID] = @Original_SalesID)
```

```

Private Sub btnDeleteSale_Click(sender As Object, e As EventArgs) Handles
btnDeleteSale.Click
    Me.SalesTableAdapter.DeleteQuery_Sales(txtBSaleID.Text)
    Form1_Load(sender, e)
End Sub

```

Form1

of 3 | + X

Gallery Employee Artist Client Creation Sales

White Cube Art Gallery

Sales

Sales ID	030A	Insert	Update	Delete
Creation ID				
Employee ID				
Client ID				
Date of Sale				
Price of Art				

SalesID	CreationID	employeeID	clientID	salesDate
016A	16C	10AA	03CL	01/09/2015
017A	17C	11BB	04CL	01/01/2016
018A	18C	10AA	04CL	25/05/2016
019A	19C	11BB	04CL	01/09/2016
020A	20C	11BB	01CL	20/09/2016
021A	21C	11BB	10CL	25/11/2016
022A	22C	10AA	11CL	20/10/2016
023A	23C	10BB	12CL	21/01/2017
024A	24C	11CC	13CL	04/05/2017
025A	25C	10CC	10CL	03/03/2017
026A	26C	10CC	14CL	03/03/2017
027A	27C	10BB	15CL	01/09/2018
028A	28C	11CC	16CL	11/11/2018
029A	29C	11CC	17CL	25/11/2018

SQLQuery19.sql - DESKTOP-H5GKRQT\SQLEXPRESS.galleryWCube (DESKTOP-H5GKRQT\yaiza (73)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

SQLQuery19.sql - D...5GKRQT\yaiza (73) -> SQLQuery18.sql - D...5GKRQT\yaiza

```

1 /****** Script for SelectTopNRows command from SSMS
2 SELECT TOP (1000) [SalesID]
3     ,[CreationID]
4     ,[employeeID]
5     ,[clientID]
6     ,[salesDate]
7     ,[priceSalesArt]
8     FROM [galleryWCube].[dbo].[Sales]

```

Results

SalesID	CreationID	employeeID	clientID	salesDate	priceSalesArt
001A	01C	10AA	01CL	2014-01-01	200000.00
002A	02C	10AA	02CL	2014-05-01	250000.00
003A	03C	10AA	01CL	2014-05-07	220000.00
004A	04C	10AA	03CL	2014-01-01	500.00
005A	05C	10AA	04CL	2014-03-01	12000.00
006A	06C	10AA	05CL	2014-11-01	5000.00
007A	07C	10AA	06CL	2014-01-01	950.00
008A	08C	11BB	05CL	2014-05-01	9000.00
009A	09C	11BB	07CL	2016-10-01	170000.00
010A	10C	10AA	08CL	2015-10-01	6000.00
011A	11C	10AA	09CL	2014-12-01	799.00
012A	12C	11AA	10CL	2015-09-01	180.00
013A	13C	11BB	11CL	2015-12-01	55000.00
014A	14C	10BB	01CL	2015-05-05	200000.00
015A	15C	10AA	02CL	2015-06-25	89000.00
016A	16C	10AA	03CL	2015-09-01	95000.00
017A	17C	11BB	04CL	2016-01-01	100000.00
018A	18C	10AA	04CL	2016-05-25	20000.00
019A	19C	11BB	04CL	2016-09-01	58000.00
020A	20C	11BB	01CL	2016-09-20	3000.00
021A	21C	11BB	10CL	2016-11-25	10000.00
022A	22C	10AA	11CL	2016-10-20	22000.00
023A	23C	10BB	12CL	2017-01-21	88000.00
024A	24C	11CC	13CL	2017-05-04	200.00
025A	25C	10CC	10CL	2017-03-03	520.00
026A	26C	10CC	14CL	2017-03-03	125.00
027A	27C	10BB	15CL	2018-09-01	650.00
028A	28C	11CC	16CL	2018-11-11	400.00
029A	29C	11CC	17CL	2018-11-25	750.00

5.4. (10pts) Create a GUI to insert, update, and delete data into a table of your database. Include a snapshot of the GUI.

Gallery

Form1

of 3 | 1 | < > | + X

Gallery Employee Artist Client Creation Sales



Gallery White Cube

galleryID	galleryName	galleryAddress
1	batman	batman
2	Gallery White Cu...	Green St, Inns Q...
3	Gallery White Cu...	Fairhill Rd Upper...

Gallery ID:

Name:

Address:

Insert Update Delete

Employee

Form1

of 3 | 1 | < > | + X

Gallery Employee Artist Client Creation Sales



Employee Details

ID	Email	employeeName	employeePhone	employeeAddress	employeeEmail
10AA	Karina Cosmo	089 235 7896	25 Summer Hill, C...	karina.cosmo@g...	
10BB	Murin Cresceri	084 444 1159	45 Long Line Ro...	murin.cresceri@g...	
10CC	Maria Garcia	087 452 1457	5 East Park, Gal...	maria.garcia@g...	
11AA	Grainne O'Connor	084 445 7896	10 Earwood Esta...	grainne.oconnor...	
11BB	Marco Murphy	089 235 7896	25 Patricks Hill, ...	marco.murphy@g...	
11CC	Clementina O'Brian	085 422 4457	66 College Road, ...	clementina.obrian...	
12DD	AA	23	er	d@gmail.com	
13DD	ss	344	fff	ff@gmail.com	

ID:

Name:

Phone Number:

Address:

Gallery ID:

Insert Update Delete

Artist

Form1

of 3 | 1 | < > | + X

Gallery Employee Artist Client Creation Sales



Artist Details

artistID	ArtistName	ArtistPhone	ArtistStyle
01AR	Catalina Peres	083 457 9855	expressionism
02AR	Padraig O'Connell	082 578 9855	impressionism
03AR	Marianna McHer	081 578 9975	expressionism
04AR	Mark O'Halloran	085 578 9855	surealism
05AR	Mary McHugh	086 478 8855	post-impressionism
06AR	Catriona Farrell	087 578 9855	surealism
07AR	Maeve Ben	087 457 9851	fauvism
08AR	Steven O'Donnell	087 578 9850	fauvism
09AR	Yessica O'Mara	087 578 9846	expressionism
10AR	Richard O'Donovan	087 458 9823	dadaism
11AR	Petra Taczali	087 4578 980	cubism
12AR	Marina Mar	087 458 9060	dadaism
13AR	Regina Healy	087 578 9878	humanism
14AR	Brian Martin	086 458 9877	humanism
15AR	Ciaran Delta	085 555 9855	cubism
16AR	Patrick O'Mara	083 545 9855	surealism
17AR	ss	087 578 9562	fauvism

Artist ID:

Name:

Phone:

Style:

Insert Update Delete

Client

Form1

1 of 3 | < > + - X

Gallery Employee Artist Client Creation Sales



Client Details

ID	<input type="text"/>	Total Spent	<input type="text"/>
Name	<input type="text"/>	Course Level	<input type="button" value="▼"/>
Phone Number	<input type="text"/>		
Address	<input type="text"/>		
Email	<input type="text"/>		

Insert Update Delete

ClientID	clientName	clientPhone	clientAddress	clientEmail
01CL	Siobhan Murphy	085 152 4562	51 Summer Street	siobhan.murphy@gmail.com
02CL	Ava Kelly	087 419 4560	SN Patricks Hill, Dublin	ava@gmail.com
03CL	Aoife O'Sullivan	087 412 4002	2 Orchard Road, Dublin	aoife@gmail.com
04CL	Anna Walsh	083 412 4442	56 Broomfield, Cork	a.walsh@hotmail.com
05CL	Clara Smith	087 402 4222	27 Magazine Road, Dublin	clara.smith@dcu.ie
06CL	Caoimhe O'Brien	087 122 4562	5 Coal Quay, Cork	caoimhe@gmail.com
07CL	Niamh O'Connor	087 142 4562	25 College Road, Dublin	niamh.oconnor@gmail.com
08CL	Saoirse O'Reilly	087 418 4562	7 Memon Square, Dublin	saoirse@gmail.com
09CL	Miramar Doyle	087 213 4562	17 Ilac Centre, Dublin	miramar.doy@gmail.com
10CL	Manon McCarthy	087 410 4562	6 Harcourt Street, Dublin	manon452@gmail.com
11CL	Ma McCarthy	083 511 4562	46 Kildare Street, Dublin	ma78@hotmail.com
12CL	Lila Walsh	087 412 6862	1414 West Virginia, USA	walsh@gmail.com
13CL	Leesley O'Doherty	087 777 4562	3 Fair Street, Galway	odohertylesley@gmail.com
14CL	Caitrín Kennedy	087 412 0062	200 Hardwick Street, Belfast	kennedy.caitrin@gmail.com
15CL	Pearl Lynch	083 412 4462	48 Leitrim Street, Belfast	lynchp@gmail.com
16CL	Lime Murray	087 412 7762	45 Dunbar Street, Belfast	murray.lime@gmail.com

Creation

Form1

1 of 3 | < > + - X

Gallery Employee Artist Client Creation Sales



Creation Details

ID	<input type="text"/>	Price	<input type="text"/>	Artist ID	<input type="text"/>
Type	<input type="button" value="▼"/>				
Title	<input type="text"/>				
Date of Creation	<input type="text"/>				

Insert Update Delete

creationID	typeOfCreation	titleOfCreation	dateOfCreation	priceArt
01C	Paint	Sunset	10/01/2013	180000.0000
02C	Paint	Liberté	01/06/2013	21000.0000
03C	Paint	Standing in the Rain	07/01/2014	200000.0000
04C	Paint	Paris Rody	31/12/2013	350.0000
05C	Paint	Triumvirate	01/03/2012	10000.0000
06C	Paint	Old Wind	05/12/2013	4000.0000
07C	Paint	Tales of the Past	12/01/2013	800.0000
08C	Sculpture	Frozen in Time	01/09/2013	8000.0000
09C	Sculpture	Larson25	01/09/2016	150000.0000
10C	Sculpture	Silent Vigil	01/06/2015	5000.0000
11C	Sculpture	The Gatekeeper	01/07/2014	599.0000
12C	Sculpture	Wintry Sentinels	01/06/2015	150.0000
13C	Sculpture	Silent Watch25 Sculpture	01/07/2015	52000.0000
14C	Sculpture	Snow-Covered Statue	05/03/2015	180000.0000
15C	Sculpture	Sentinels of the Sun	05/05/2015	82000.0000
16C	Sculpture	Ray of Hope	01/05/2015	92000.0000

Sales

Form1

|◀ | 1 | of 3 | ▶| + | X |

Gallery Employee Artist Client Creation Sales



Sales

Sales ID	<input type="text"/>
Creation ID	<input type="text"/>
Employee ID	<input type="text"/>
Client ID	<input type="text"/>
Date of Sale	<input type="text"/>
Price of Art	<input type="text"/>

Insert **Update** **Delete**

SalesID	CreationID	employeeID	clientID	salesDate
001A	01C	10AA	01CL	01/01/2014
002A	02C	10AA	02CL	01/05/2014
003A	03C	10AA	01CL	07/05/2014
004A	04C	10AA	03CL	01/01/2014
005A	05C	10AA	04CL	01/03/2014
006A	06C	10AA	05CL	01/11/2014
007A	07C	10AA	06CL	01/01/2014
008A	08C	11BB	05CL	01/05/2014
009A	09C	11BB	07CL	01/10/2016
010A	10C	10AA	08CL	01/10/2015
011A	11C	10AA	09CL	01/12/2014
012A	12C	11AA	10CL	01/09/2015
013A	13C	11BB	11CL	01/12/2015
014A	14C	10BB	01CL	05/05/2015
015A	15C	10AA	02CL	25/06/2015
016A	16C	10AA	03CL	01/09/2015

Appendix A

ACTIVITY LOG

Start Date	Activity/task	Description	End Date
8-11-18	System Description	Write introductions about database	11-11-18
11-11-18	Solving Approach	Writing design techniques, issues and security problems	13-11-18
13-11-18	Create a Gantt Chart	Dividing phases and allocate appropriate time to each one of them	13-11-18
13-11-18	Attributes identification	Write all possible attributes and tables	14-11-18
14-11-18	Normalize the tables	Make sure there are no dependencies in my tables	16-11-18
16-11-18	Create ER model	Create a ER model in ERplus	17-11-18
14-11-18	Choose Data Types	Learn about char, varchar, date, money for each attribute	16-11-18
19-11-18	Create tables in MySQL Server Management	Insert tables in MySQL server management studio	20-11-18
23-11-18	Insert data in the tables	Insert gallery specifications, employee, client, artist, creation and sales data.	25-11-18
18 – 11 - 18	Create a diagram	In SQL server Management, autogenerated, check for relationships to confirm everything is correct.	18 – 11 - 18
25 - 11- 18	Design GUI	Design GUI Using VB, designing a quick logo using canva.com	25 – 11 - 18
25 – 11 -18	Connecting VB to the database	Make sure VB is connected to MySQL	26 – 11 -18
26 – 11 -18	Add functionality to insert data	Add queries using tableadaptor	27 – 11 -18
26 – 11 -18	Add functionality to update data	Add queries using tableadaptor	27 – 11 -18
27 – 11 -18	Add functionality to update data	Add queries using tableadaptor	28 – 11 -18
28 – 11 - 18	Add screenshots to the report	Showing tables and inserting rows in the tables	28 – 11 - 18

Appendix B

DATABASE SQL SAMPLE DATA

To solve the business problem that I presented with Gallery White Cube there are two tables that do not meet the minimum register per table (10), Gallery and Employees. I added more rows into the other 4 tables.

Another value was insert/updated/deleted to show the functionality using VB.

Inserting into tables

```
SQLQuery1.sql - DESKTOP-H5GKRQ7\SQLEXPRESS.galleryWCube (DESKTOP-H5GKRQ7\yaiza (54)) - Microsoft SQL Server Management Studio
File Edit View Query Project Debug Tools Window Help
Generic Debugger
galleryWCube | Execute Debug
Object Explorer
Connect galleryWCube
[+] DESKTOP-H5GKRQ7\SQLEXPRESS (SQL Server)
  [+] Database
    [+] System Databases
    [+] Database Snapshots
    [+] test1
    [+] Test2
    [+] Test3
    [+] galleryWCube
  [+] Security
  [+] Server Objects
  [+] Replication
  [+] PolyBase
  [+] Management
  [+] XEvent Profiler
SQLQuery1.sql - DESKTOP-H5GKRQ7\yaiza (54) - x
A7  INSERT INTO Gallery VALUES(1, 'Gallery White Cube Cork', '12 Princess Street, Cork')
A8  INSERT INTO Gallery VALUES(2, 'Gallery White Cube Dublin', 'Green St, Inns Quay, Dublin')
A9  INSERT INTO Gallery VALUES(3, 'Gallery White Cube Galway', 'Fairhill Rd Upper, Galway')
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SQLQuery1.sql - DESKTOP-H5GKRQ7\yeiza (54) + x
90 INSERT INTO Creation VALUES('02C', 'Sculpture', 'Hudry Sentinel', '2015-06-01', '150', '10AR')
91 INSERT INTO Creation VALUES('13C', 'Sculpture', 'Silent Watch Summer Hill, Cork', '2015-07-01', '52000', '11AR')
92 INSERT INTO Creation VALUES('14C', 'Sculpture', 'Snow-Covered Skidgate', '2015-03-05', '18000', '08AR')
93 INSERT INTO Creation VALUES('15C', 'Sculpture', 'Sentinels of the Soul', '2015-05-05', '82000', '11AR')
94 INSERT INTO Creation VALUES('16C', 'Sculpture', 'Ray of Hope', '2015-05-01', '92000', '12AR')
95 INSERT INTO Creation VALUES('17C', 'Sculpture', 'The Ancient and The Timless', '2015-12-01', '80000', '13AR')
96 INSERT INTO Creation VALUES('18C', 'Sculpture', 'Cold Memories, Warm Dreams', '2016-01-09', '18000', '13AR')
97 INSERT INTO Creation VALUES('19C', 'Sculpture', 'The Spirits Awaken from Winter', '2016-06-01', '55000', '12AR')
98 INSERT INTO Creation VALUES('20C', 'Other', 'Dawn, Hecate Straits', '2016-03-27', '2500', '10AR')
99 INSERT INTO Creation VALUES('21C', 'Other', 'Dawn, but not Forgotten', '2016-06-29', '9000', '12AR')
100 INSERT INTO Creation VALUES('22C', 'Other', 'Space, the Final Frontier', '2016-10-25', '28000', '05AR')
101 INSERT INTO Creation VALUES('23C', 'Other', 'Timeless Beauty in the Present', '2016-01-21', '84000', '10AR')
102 INSERT INTO Creation VALUES('24C', 'Other', 'Stories in Snow', '2015-05-01', '16000', '14AR')
103 INSERT INTO Creation VALUES('25C', 'Other', 'Olympia', '03-February-2017', '420', '10AR')
104 INSERT INTO Creation VALUES('26C', 'Other', 'The art of painting', '2017-03-01', '80', '15AR')
105 INSERT INTO Creation VALUES('27C', 'Other', 'Royal red and blue', '2017-09-01', '550', '15AR')
106 INSERT INTO Creation VALUES('28C', 'Other', 'The dance', '2017-10-01', '350', '10AR')
107 INSERT INTO Creation VALUES('29C', 'Other', 'The flower carrier', '2017-09-20', '700', '16AR')
108
109 INSERT INTO Clients VALUES('01C', 'Siobhan Murphy', '085 152 4562', '51 Summer Street, Cork', 'siobhan.murphy@eill.com', '623000', 'null')
110 INSERT INTO Clients VALUES('02C', 'Ava Kelly', '087 419 4560', 'SN Patricks Hill, Cork', 'ava@gmail.com', '114000', 'null')
111 INSERT INTO Clients VALUES('03C', 'Aoife O'Sullivan', '087 412 4002', '2 Orchard Road, Cork', 'aoife@gmail.com', '95500', 'null')
112 INSERT INTO Clients VALUES('04C', 'Brenda McCarthy', '083 511 4562', '12a Broadstone Court, Cork', 'brenda.mccarthy@eill.com', '119000', 'null')
113 INSERT INTO Clients VALUES('05C', 'Ciaran Smith', '087 402 4222', '27 Merrion Row, Cork', 'ciaran.smith@eill.com', '140000', '1')
114 INSERT INTO Clients VALUES('06C', 'Caoimhe O'Brien', '087 122 4562', '5 Coal Quay, Cork', 'coaimhe.o'brien@eill.com', '950', '1')
115 INSERT INTO Clients VALUES('07C', 'Niamh O'Connor', '087 142 4562', '25 College Road, Cork', 'niamh.oconnor@eill.com', '170000', '2')
116 INSERT INTO Clients VALUES('08C', 'Sadie O'Reilly', '087 418 4563', '7 Merrion Sq, Dublin', 'sadie@gmail.com', '6000', 'null')
117 INSERT INTO Clients VALUES('09C', 'Miramar Doyle', '087 121 4562', '17 lac Centre, Dublin', 'miramar.doy@gmail.com', '799', 'null')
118 INSERT INTO Clients VALUES('10C', 'Mariana McCarthy', '087 410 4562', '6 Harcourt Street, Dublin', 'mariana.mccarthy@gmail.com', '107000', 'null')
119 INSERT INTO Clients VALUES('11C', 'Maire McCarthy', '083 511 4562', '46 Kildare Street, Dublin', 'maire.mccarthy@gmail.com', '107000', 'null')
120 INSERT INTO Clients VALUES('12C', 'Liesl Walsh', '087 412 6682, '1414 West Virginia Avenue, Galway', 'walsh@gmail.com', '88000', 'null')
121 INSERT INTO Clients VALUES('13C', 'Leah Doherty', '087 777 4562', '3 Fair Street, Galway', 'odohertyleahly@hotmail.com', '200', '1')
122 INSERT INTO Clients VALUES('14C', 'Caitriona Kennedy', '087 412 0062', '200 Hardwick Street, Galway', 'kennedy.caitrin@hotmail.com', '125', '2')
123 INSERT INTO Clients VALUES('15C', 'Pearl Lynch', '083 412 4462', '48 Leitrim Street, Galway', 'lynchpearl@gmail.com', '650', '2')
124 INSERT INTO Clients VALUES('16C', 'Lime Murray', '087 412 7762, '45 Dunbar Street, Galway', 'murray.lime@gmail.com', '400', '1')
125 INSERT INTO Clients VALUES('17C', 'Roisin Moore', '087 412 2262', '520 Chapel Street, Cork', 'roisinmoirisoing@hotmail.com', '750', '1')
126
127
128
129
130 INSERT INTO Sales VALUES('00A', '01C', '10AA', '01C', '2014-01-01', '200000')
131 INSERT INTO Sales VALUES('00A', '02C', '10AA', '02C', '2014-05-01', '250000')
```

SQLQuery1.sql - DESKTOP-H5GKRQT\SQLEXPRESS.galleryWCube (DESKTOP-H5GKRQT\yaiza (54)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query MDX DML XMLE DAX

Execute Debug

Object Explorer

Connect

DESKTOP-H5GKRQT\SQLEXPRESS (SQL Server)

Databases

Security

Server Objects

Replication

PolyBase

Management

XEvent Profiler

SQLQuery1.sql - DE...5GKRQT\yaiza (54)*

```
128
129
130 INSERT INTO Sales VALUES('001A', '01C', '10AA', '01CL', '2014-01-01', '200000')
131 INSERT INTO Sales VALUES('002A', '02C', '10AA', '02CL', '2014-05-01', '25000 ')
132 INSERT INTO Sales VALUES('003A', '03C', '10AA', '01CL', '2014-05-07', '220000')
133 INSERT INTO Sales VALUES('004A', '04C', '10AA', '03CL', '2014-01-01', '500')
134 INSERT INTO Sales VALUES('005A', '05C', '10AA', '04CL', '2014-03-01', '12000')
135 INSERT INTO Sales VALUES('006A', '06C', '10AA', '05CL', '2014-11-01', '5000')
136 INSERT INTO Sales VALUES('007A', '07C', '10AA', '06CL', '2014-01-01', '950')
137 INSERT INTO Sales VALUES('008A', '08C', '11BB', '05CL', '2014-05-01', '9000')
138 INSERT INTO Sales VALUES('009A', '09C', '11BB', '07CL', '2016-10-01', '17000')
139 INSERT INTO Sales VALUES('010A', '10C', '10AA', '08CL', '2015-10-01', '6000')
140 INSERT INTO Sales VALUES('011A', '11C', '10AA', '09CL', '2014-12-01', '799')
141 INSERT INTO Sales VALUES('012A', '12C', '11AA', '10CL', '2015-09-01', '180')
142 INSERT INTO Sales VALUES('013A', '13C', '11BB', '11CL', '2015-12-01', '55000 ')
143 INSERT INTO Sales VALUES('014A', '14C', '10BB', '01CL', '2015-05-05', '200000')
144 INSERT INTO Sales VALUES('015A', '15C', '10AA', '02CL', '2015-06-25', '89000)
145 INSERT INTO Sales VALUES('016A', '16C', '10AA', '03CL', '2015-09-01', '95000')
146 INSERT INTO Sales VALUES('017A', '17C', '11BB', '04CL', '2016-01-01', '100000)
147 INSERT INTO Sales VALUES('018A', '18C', '10AA', '04CL', '2016-05-25', '20000)
148 INSERT INTO Sales VALUES('019A', '19C', '11BB', '04CL', '2016-09-01', '58000)
149 INSERT INTO Sales VALUES('020A', '20C', '11BB', '01CL', '2016-09-20', '3000)
150 INSERT INTO Sales VALUES('021A', '21C', '11BB', '10CL', '2016-11-25', '10000)
151 INSERT INTO Sales VALUES('022A', '22C', '10AA', '11CL', '2016-10-20 ', '22000)
152 INSERT INTO Sales VALUES('023A', '23C', '10BB ', '12CL', '2017-01-21', '88000)
153 INSERT INTO Sales VALUES('024A', '24C', '11CC', '13CL', '2017-05-04', '200')
154 INSERT INTO Sales VALUES('025A', '25C', '10CC', '10CL', '2017-03-03', '520')
155 INSERT INTO Sales VALUES('026A', '26C', '10CC', '14CL', '2017-03-03 ', '125')
156 INSERT INTO Sales VALUES('027A', '27C', '10BB ', '15CL', '2018-09-01', '650')
157 INSERT INTO Sales VALUES('028A', '28C', '11CC', '16CL', '2018-11-11', '400')
158 INSERT INTO Sales VALUES('029A', '29C', '11CC ', '17CL', '2018-11-25', '750)
```

SQLQuery1.sql - DESKTOP-H5GKRQ7\SQLEXPRESS.galleryWCube (DESKTOP-H5GKRQ7\yiaiza (54)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug ✓

galleryWCube Generic Debugger

Object Explorer

Connect ▾

DESKTOP-H5GKRQ7\SQLEXPRESS (SQL Server)

Databases

System Databases

Database Snapshots

test1

Test2

Test3

galleryWCube

Security

Server Objects

PolyBase

Management

XEvent Profiler

SQLQuery1.sql - DE.._5GKRQ7\yiaiza (54) ▾

```
47 INSERT INTO Gallery VALUES(1, 'Gallery White Cube Cork', '17 Princess Street, Cork')
48 INSERT INTO Gallery VALUES(2, 'Gallery White Cube Dublin', 'Green St, Inns Quay,Dublin')
49 INSERT INTO Gallery VALUES(3, 'Gallery White Cube Galway', 'Fairhill Rd Upper, Galway')
50
51
52 INSERT INTO Employee VALUES('10AA', 'Karina Cosmo', '089 235 7896', '25 Summer Hill, Cork', 'karina.cosmo@gallerywhitecube.com', 'Manager', '1')
53 INSERT INTO Employee VALUES('11AA', 'Grainne O'Connor', '084 445 7896', '10 Earwood Estate, Cork', 'grainne.oconnor@gallerywhitecube.com', 'Teacher', '1')
54 INSERT INTO Employee VALUES('10BB', 'Muriel Cresceri', '084 444 1159', '45 Long Line Road, Dublin', 'muriel.cresceri@gallerywhitecube.com', 'Manager', '2')
55 INSERT INTO Employee VALUES('11BB', 'Marco Murphy', '089 235 7896', '25 Patrick's Hill, Dublin', 'marco.murphy@gallerywhitecube.com', 'Sales', '2')
56 INSERT INTO Employee VALUES('10CC', 'Maria Garcia', '087 452 1457', '5 East Park, Galway', 'maria.garcia@gallerywhitecube.com', 'Manager', '3')
57 INSERT INTO Employee VALUES('11CC', 'Clementina O'Brian', '085 422 4457', '66 College Road, Galway', 'clementina.obrian@gallerywhitecube.com', 'Sales', '3')
58
59
60 INSERT INTO Artist VALUES('01AR', 'Catalina Peres', '083 457 9855', 'expressionism')
61 INSERT INTO Artist VALUES('02AR', 'Padraig O'Connell', '082 578 9855', 'impressionism')
62 INSERT INTO Artist VALUES('03AR', 'Marielena McHer', '081 578 9975', 'expressionism')
63 INSERT INTO Artist VALUES('04AR', 'Nancy McIlroyan', '080 578 9855', 'surrealism')
64 INSERT INTO Artist VALUES('05AR', 'Henry Pichug', '086 478 8888', 'post-impressionism')
65 INSERT INTO Artist VALUES('06AR', 'Caitriona Farrell', '087 578 9855', 'surrealism')
66 INSERT INTO Artist VALUES('07AR', 'Neeve Ben', '087 457 9851', 'fauvism')
67 INSERT INTO Artist VALUES('08AR', 'Steven O'Donell', '087 578 0850', 'fauvism')
68 INSERT INTO Artist VALUES('09AR', 'Yessica O'Hara', '087 578 9946', 'expressionism')
69 INSERT INTO Artist VALUES('10AR', 'Richard O'Donovan', '087 458 8822', 'dadaism')
70 INSERT INTO Artist VALUES('11AR', 'Petra Tacalli', '087 4578 980', 'cubism')
71 INSERT INTO Artist VALUES('12AR', 'Marina Mar', '087 458 9960', 'dadaism')
72 INSERT INTO Artist VALUES('13AR', 'Regina Healy', '087 578 9876', 'humanism')
73 INSERT INTO Artist VALUES('14AR', 'Brian Martin', '086 458 9877', 'humanism')
74 INSERT INTO Artist VALUES('15AR', 'Claran Delta', '085 555 9855', 'cubism')
75 INSERT INTO Artist VALUES('16AR', 'Patrick O'Hara', '083 545 9855', 'surrealism')
76
77
78 INSERT INTO Creation VALUES('01C', 'Paint', 'Sunset', '2013-01-10', '180000', '01AR')
79 INSERT INTO Creation VALUES('02C', 'Paint', 'Liberte', '2013-06-01', '210000', '01AR')
80 INSERT INTO Creation VALUES('03C', 'Paint', 'Standing in the Winds of Change', '2014-01-07', '200000', '02AR')
```

99 %

Messages

(1 row affected)

99 %

Query executed successfully.

DESKTOP-H5GKRQ7\SQL

Gallery

```
INSERT INTO Gallery VALUES(1, 'Gallery White Cube Cork', '17 Princess Street, Cork')
INSERT INTO Gallery VALUES(2, 'Gallery White Cube Dublin', 'Green St, Inns
Quay, Dublin')
INSERT INTO Gallery VALUES(3, 'Gallery White Cube Galway', 'Fairhill Rd Upper,
Galway')
```

Employee

```
INSERT INTO Employee VALUES('10AA', 'Karina Cosmo', '089 235 7896', '25 Summer Hill,
Cork', 'karina.cosmo@gallerywhitecube.com', 'Manager', '1')
INSERT INTO Employee VALUES('11AA', 'Grainne O'Connor', '084 445 7896', '10 Earwood
Estate, Cork', 'grainne.oconnor@gallerywhitecube.com', 'Teacher', '1')
INSERT INTO Employee VALUES('10BB', 'Murin Cresceri', '084 444 1159', '45 Long Line
Road, Dublin', 'murin.cresceri@gallerywhitecube.com', 'Manager', '2')
INSERT INTO Employee VALUES('11BB', 'Marco Murphy', '089 235 7896', '25 Patricks Hill,
Dublin', 'marco.murphy@gallerywhitecube.com', 'Sales', '2')
INSERT INTO Employee VALUES('10CC', 'Maria Garcia', '087 452 1457', '5 East Park,
Galway', 'maria.garcia@gallerywhitecube.com', 'Manager', '3')
INSERT INTO Employee VALUES('11CC', 'Clementina O'Brian', '085 422 4457', '66 College
Road, Galway', 'clementina.obrian@gallerywhitecube.com', 'Sales', '3')
```

Artist

```
INSERT INTO Artist VALUES('01AR', 'Catalina Peres', '083 457 9855', 'expressionism')
INSERT INTO Artist VALUES('02AR', 'Padraig O'Connell', '082 578 9855', 'impressionism')
INSERT INTO Artist VALUES('03AR', 'Marianna McHer', '081 578 9975', 'expressionism')
INSERT INTO Artist VALUES('04AR', 'Mark O'Halloran', '085 578 9855', 'surrealism')
INSERT INTO Artist VALUES('05AR', 'Mary McHugh', '086 478 8855', 'post-impressionism')
INSERT INTO Artist VALUES('06AR', 'Caitriona Farrell', '087 578 9855', 'surrealism')
INSERT INTO Artist VALUES('07AR', 'Maeve Ben', '087 457 9851', 'fauvism')
INSERT INTO Artist VALUES('08AR', 'Steven O'Donell', '087 578 9850', 'fauvism')
INSERT INTO Artist VALUES('09AR', 'Yessica O'Mara', '087 578 9846', 'expressionism')
INSERT INTO Artist VALUES('10AR', 'Richard O'Donovan', '087 458 9823', 'dadaism')
INSERT INTO Artist VALUES('11AR', 'Petra Taczali', '087 4578 980', 'cubism')
INSERT INTO Artist VALUES('12AR', 'Marina Mar', '087 458 9060', 'dadaism')
INSERT INTO Artist VALUES('13AR', 'Regina Healy', '087 578 9878', 'humanism')
INSERT INTO Artist VALUES('14AR', 'Brian Martin', '086 458 9877', 'humanism')
INSERT INTO Artist VALUES('15AR', 'Ciaran Delta', '085 555 9855', 'cubism')
INSERT INTO Artist VALUES('16AR', 'Patrick O'Mara', '083 545 9855', 'surrealism')
```

Creation

```
INSERT INTO Creation VALUES('01C', 'Paint', 'Sunset', '2013-01-10', '180000', '01AR')
INSERT INTO Creation VALUES('02C', 'Paint', 'Liberté', '2013-06-01', '21000', '01AR')
INSERT INTO Creation VALUES('03C', 'Paint', 'Standing in the Winds of Change', '2014-
01-07', '200000', '02AR')
INSERT INTO Creation VALUES('04C', 'Paint', 'Paris Rody', '2013-12-31', '350',
'03AR')
INSERT INTO Creation VALUES('05C', 'Paint', 'Triumvirate', '2012-03-01', '10000',
'01AR')
INSERT INTO Creation VALUES('06C', 'Paint', 'Old Wind', '2013-12-05', '4000', '04AR')
INSERT INTO Creation VALUES('07C', 'Paint', 'Tales of the Past', '2013-01-12', '800',
'06AR')
INSERT INTO Creation VALUES('08C', 'Sculpture', 'Frozen in Time', '2013-09-01',
'8000', '07AR')
INSERT INTO Creation VALUES('09C', 'Sculpture', 'Larson25', '2016-09-01', '150000',
'08AR')
```

```

INSERT INTO Creation VALUES('10C', 'Sculpture' , 'Silent Vigil', '2015-06-01', '5000' ,
'05AR')
INSERT INTO Creation VALUES('11C', 'Sculpture' , 'The Gatekeepers', '2014-07-01',
'599', '09AR')
INSERT INTO Creation VALUES('12C', 'Sculpture' , 'Wintry Sentinels', '2015-06-01',
'150', '10AR')
INSERT INTO Creation VALUES('13C', 'Sculpture' , 'Silent Watch25 Summer Hill, Cork',
'2015-07-01', '52000', '11AR')
INSERT INTO Creation VALUES('14C', 'Sculpture' , 'Snow-Covered Skidegate', '2015-03-
05', '180000', '08AR')
INSERT INTO Creation VALUES('15C', 'Sculpture' , 'Sentinels of the Soul ', '2015-05-
05', '82000', '11AR')
INSERT INTO Creation VALUES('16C', 'Sculpture' , 'Ray of Hope', '2015-05-01', '92000',
'12AR')
INSERT INTO Creation VALUES('17C', 'Sculpture' , 'The Ancient and The Timeles', '2015-
12-01', '80000', '13AR')
INSERT INTO Creation VALUES('18C', 'Sculpture' , 'Cold Memories, Warm Dreams', '2016-01-
09', '18000', '14AR')
INSERT INTO Creation VALUES('19C', 'Sculpture' , 'The Spirits Awaken from Winte',
'2016-06-01', '55000', '12AR')
INSERT INTO Creation VALUES('20C', 'Other' , 'Dawn, Heckate Straits', '2016-03-27',
'2500', '10AR')
INSERT INTO Creation VALUES('21C', 'Other' , 'Dawn but not Forgotten', '2016-06-29',
'9000', '12AR')
INSERT INTO Creation VALUES('22C', 'Other' , 'Space, the Final Frontier', '2016-10-
04', '20000', '05AR')
INSERT INTO Creation VALUES('23C', 'Other' , 'Looking Beyond the Present', '2017-01-
21', '84000', '10AR')
INSERT INTO Creation VALUES('24C', 'Other' , 'Stories in Snow', '2017-05-01', '160',
'14AR')
INSERT INTO Creation VALUES('25C', 'Other' , 'Olympia', '03-February-2017', '420',
'10AR')
INSERT INTO Creation VALUES('26C', 'Other' , 'The art of painting', '2017-03-01',
'80', '15AR')
INSERT INTO Creation VALUES('27C', 'Other' , 'Royal red and blue', '2017-09-01',
'550', '15AR')
INSERT INTO Creation VALUES('28C', 'Other' , 'The dance', '2017-10-01', '350', '10AR')
INSERT INTO Creation VALUES('29C', 'Other' , 'The flower carrier', '2017-09-20',
'700', '16AR')

```

Clients

```

INSERT INTO Clients VALUES('01CL', 'Siobhan Murphy' , '085 152 4562', '51 Summer
Street, Cork', 'siobhan.murphy@dell.com', '623000', 'null')
INSERT INTO Clients VALUES('02CL', 'Ava Kelly' , '087 419 4560', 'SN Patricks Hill,
Cork', 'ava@gmail.com', '114000', 'null')
INSERT INTO Clients VALUES('03CL', 'Aoife O'Sullivan' , '087 412 4002', '2 Orchard
Road, Cork', 'aoife@gmail.com', '95500', 'null')
INSERT INTO Clients VALUES('04CL', 'Anna Walsh' , '083 412 4442', '56 Broomfield,
Cork', 'a.walsh@hotmail.com', '190000', 'null')
INSERT INTO Clients VALUES('05CL', 'Ciara Smith' , '087 402 4222', '27 Magazine Road,
Cork', 'ciara.smith@dell.com', '14000', '1')
INSERT INTO Clients VALUES('06CL', 'Caoimhe O'Brien' , '087 122 4562', '5 Coal Quay,
Cork', 'caoimhe@gmail.com', '950', '1')
INSERT INTO Clients VALUES('07CL', 'Niamh O'Connor' , '087 142 4562', '25 College
Road, Cork', 'niamh.oconnor@dell.com', '170000', '2')
INSERT INTO Clients VALUES('08CL', 'Saoirse O'Reilly' , '087 418 4562', '7 Merrion Sq,
Dublin', 'saoirse@gmail.com', '6000', 'null')
INSERT INTO Clients VALUES('09CL', 'Miramar Doyle' , '087 213 4562', '17 Ilac Centre,
Dublin', 'miramar.doy@gmail.com', '799', 'null')
INSERT INTO Clients VALUES('10CL', 'Manon McCarthy' , '087 410 4562', '6 Harcourt
Street, Dublin', 'manon452@gmail.com', '10700', 'null')

```

```

INSERT INTO Clients VALUES('11CL', 'Ma McCarthy', '083 511 4562', '46 Kildare Street, Dublin', 'ma78@hotmail.com', '77000', 'null')
INSERT INTO Clients VALUES('12CL', 'Lila Walsh', '087 412 6862', '1414 West Virginia Avenue, Galway', 'walsh@gmail.com', '88000', 'null')
INSERT INTO Clients VALUES('13CL', 'Lesley O'Doherty', '087 777 4562', '3 Fair Street, Galway', 'odohertylesley@hotmail.com', '200', '1')
INSERT INTO Clients VALUES('14CL', 'Caitrin Kennedy', '087 412 0062', '200 Hardwick Street, Galway', 'kennedy.caitrin@hotmail.com', '125', '2')
INSERT INTO Clients VALUES('15CL', 'Pearl Lynch', '083 412 4462', '48 Leitrim Street, Galway', 'lynchp@gmail.com', '650', '2')
INSERT INTO Clients VALUES('16CL', 'Lime Murray', '087 412 7762', '45 Dunbar Street, Galway', 'murray.lime@gmail.com', '400', '1')
INSERT INTO Clients VALUES('17CL', 'Roisin Moore', '087 412 2262', '520 Chapel Street, Cork', 'roisinroisin@hotmail.com', '750', '1')

```

Sales

```

INSERT INTO Sales VALUES('001A', '01C', '10AA', '01CL', '2014-01-01', '200000')
INSERT INTO Sales VALUES('002A', '02C', '10AA', '02CL', '2014-05-01', '25000')
INSERT INTO Sales VALUES('003A', '03C', '10AA', '01CL', '2014-05-07', '220000')
INSERT INTO Sales VALUES('004A', '04C', '10AA', '03CL', '2014-01-01', '500')
INSERT INTO Sales VALUES('005A', '05C', '10AA', '04CL', '2014-03-01', '12000')
INSERT INTO Sales VALUES('006A', '06C', '10AA', '05CL', '2014-11-01', '5000')
INSERT INTO Sales VALUES('007A', '07C', '10AA', '06CL', '2014-01-01', '950')
INSERT INTO Sales VALUES('008A', '08C', '11BB', '05CL', '2014-05-01', '9000')
INSERT INTO Sales VALUES('009A', '09C', '11BB', '07CL', '2016-10-01', '170000')
INSERT INTO Sales VALUES('010A', '10C', '10AA', '08CL', '2015-10-01', '6000')
INSERT INTO Sales VALUES('011A', '11C', '10AA', '09CL', '2014-12-01', '799')
INSERT INTO Sales VALUES('012A', '12C', '11AA', '10CL', '2015-09-01', '180')
INSERT INTO Sales VALUES('013A', '13C', '11BB', '11CL', '2015-12-01', '55000')
INSERT INTO Sales VALUES('014A', '14C', '10BB', '01CL', '2015-05-05', '200000')
INSERT INTO Sales VALUES('015A', '15C', '10AA', '02CL', '2015-06-25', '89000')
INSERT INTO Sales VALUES('016A', '16C', '10AA', '03CL', '2015-09-01', '95000')
INSERT INTO Sales VALUES('017A', '17C', '11BB', '04CL', '2016-01-01', '100000')
INSERT INTO Sales VALUES('018A', '18C', '10AA', '04CL', '2016-05-25', '20000)
INSERT INTO Sales VALUES('019A', '19C', '11BB', '04CL', '2016-09-01', '58000')
INSERT INTO Sales VALUES('020A', '20C', '11BB', '01CL', '2016-09-20', '3000')
INSERT INTO Sales VALUES('021A', '21C', '11BB', '10CL', '2016-11-25', '10000')
INSERT INTO Sales VALUES('022A', '22C', '10AA', '11CL', '2016-10-20', '22000')
INSERT INTO Sales VALUES('023A', '23C', '10BB', '12CL', '2017-01-21', '88000')
INSERT INTO Sales VALUES('024A', '24C', '11CC', '13CL', '2017-05-04', '200')
INSERT INTO Sales VALUES('025A', '25C', '10CC', '10CL', '2017-03-03', '520')
INSERT INTO Sales VALUES('026A', '26C', '10CC', '14CL', '2017-03-03', '125')
INSERT INTO Sales VALUES('027A', '27C', '10BB', '15CL', '2018-09-01', '650')
INSERT INTO Sales VALUES('028A', '28C', '11CC', '16CL', '2018-11-11', '400')
INSERT INTO Sales VALUES('029A', '29C', '11CC', '17CL', '2018-11-25', '750')

```

Signature

I hereby certify that this material which I now submit for assessment, is entirely my own work and has not been taken from the work of others, save and to the extent, that such work has been cited and acknowledged within the text of my work

Yaiza Costa Moreno

Signed