Assignment06DB\_AAlem--\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*--

-- Title: Assignment06

-- Author: AAlem

-- Desc: This file demonstrates how to use Views

-- Change Log: When,Who,What

-- 2022-17-08,AAlem,Completed

--\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*--

Begin Try

Use Master;

If Exists(Select Name From SysDatabases Where Name = 'Assignment06DB\_AAlem')

Begin

Alter Database [Assignment06DB\_AAlem] set Single\_user With Rollback Immediate;

Drop Database Assignment06DB\_AAlem;

End

Create Database Assignment06DB\_AAlem;

End Try

Begin Catch

Print Error\_Number();

End Catch

go

Use Assignment06DB\_AAlem;

-- Create Tables (Module 01)--

Create Table Categories

([CategoryID] [int] IDENTITY(1,1) NOT NULL

,[CategoryName] [nvarchar](100) NOT NULL

);

go

Create Table Products

([ProductID] [int] IDENTITY(1,1) NOT NULL

,[ProductName] [nvarchar](100) NOT NULL

,[CategoryID] [int] NULL

,[UnitPrice] [mOney] NOT NULL

);

go

Create Table Employees -- New Table

([EmployeeID] [int] IDENTITY(1,1) NOT NULL

,[EmployeeFirstName] [nvarchar](100) NOT NULL

,[EmployeeLastName] [nvarchar](100) NOT NULL

,[ManagerID] [int] NULL

);

go

Create Table Inventories

([InventoryID] [int] IDENTITY(1,1) NOT NULL

,[InventoryDate] [Date] NOT NULL

,[EmployeeID] [int] NOT NULL -- New Column

,[ProductID] [int] NOT NULL

,[Count] [int] NOT NULL

);

go

-- Add Constraints (Module 02) --

Begin -- Categories

Alter Table Categories

Add Constraint pkCategories

Primary Key (CategoryId);

Alter Table Categories

Add Constraint ukCategories

Unique (CategoryName);

End

go

Begin -- Products

Alter Table Products

Add Constraint pkProducts

Primary Key (ProductId);

Alter Table Products

Add Constraint ukProducts

Unique (ProductName);

Alter Table Products

Add Constraint fkProductsToCategories

Foreign Key (CategoryId) References Categories(CategoryId);

Alter Table Products

Add Constraint ckProductUnitPriceZeroOrHigher

Check (UnitPrice >= 0);

End

go

Begin -- Employees

Alter Table Employees

Add Constraint pkEmployees

Primary Key (EmployeeId);

Alter Table Employees

Add Constraint fkEmployeesToEmployeesManager

Foreign Key (ManagerId) References Employees(EmployeeId);

End

go

Begin -- Inventories

Alter Table Inventories

Add Constraint pkInventories

Primary Key (InventoryId);

Alter Table Inventories

Add Constraint dfInventoryDate

Default GetDate() For InventoryDate;

Alter Table Inventories

Add Constraint fkInventoriesToProducts

Foreign Key (ProductId) References Products(ProductId);

Alter Table Inventories

Add Constraint ckInventoryCountZeroOrHigher

Check ([Count] >= 0);

Alter Table Inventories

Add Constraint fkInventoriesToEmployees

Foreign Key (EmployeeId) References Employees(EmployeeId);

End

go

-- Adding Data (Module 04) --

Insert Into Categories

(CategoryName)

Select CategoryName

From Northwind.dbo.Categories

Order By CategoryID;

go

Insert Into Products

(ProductName, CategoryID, UnitPrice)

Select ProductName,CategoryID, UnitPrice

From Northwind.dbo.Products

Order By ProductID;

go

Insert Into Employees

(EmployeeFirstName, EmployeeLastName, ManagerID)

Select E.FirstName, E.LastName, IsNull(E.ReportsTo, E.EmployeeID)

From Northwind.dbo.Employees as E

Order By E.EmployeeID;

go

Insert Into Inventories

(InventoryDate, EmployeeID, ProductID, [Count])

Select '20170101' as InventoryDate, 5 as EmployeeID, ProductID, UnitsInStock

From Northwind.dbo.Products

UNIOn

Select '20170201' as InventoryDate, 7 as EmployeeID, ProductID, UnitsInStock + 10 -- Using this is to create a made up value

From Northwind.dbo.Products

UNIOn

Select '20170301' as InventoryDate, 9 as EmployeeID, ProductID, UnitsInStock + 20 -- Using this is to create a made up value

From Northwind.dbo.Products

Order By 1, 2

go

-- Show the Current data in the Categories, Products, and Inventories Tables

Select \* From Categories;

go

Select \* From Products;

go

Select \* From Employees;

go

Select \* From Inventories;

go

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Questions and Answers \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

print

'NOTES------------------------------------------------------------------------------------

1) You can use any name you like for you views, but be descriptive and consistent

2) You can use your working code from assignment 5 for much of this assignment

3) You must use the BASIC views for each table after they are created in Question 1

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-- Question 1 (5% pts): How can you create BACIC views to show data from each table in the database.

-- NOTES: 1) Do not use a \*, list out each column!

-- 2) Create one view per table!

-- 3) Use SchemaBinding to protect the views from being orphaned!

--------------------------Creating Views------------------------------

Create View vCategories with SchemaBinding

AS

Select CategoryID,CategoryName

From dbo.Categories

go

Create View vProducts with SchemaBinding

AS

Select ProductID,ProductName, CategoryID, UnitPrice

From dbo.Products

go

Create View vEmployees with SchemaBinding

AS

Select EmployeeID,EmployeeFirstName, EmployeeLastName,ManagerID

From dbo.Employees

go

Create View vInventories with SchemaBinding

AS

Select InventoryID,InventoryDate, EmployeeID,ProductID,[Count]

From dbo.Inventories

go

-------------------Deny and Grant------------------------------

-- Question 2 (5% pts): How can you set permissions, so that the public group CANNOT select data

-- from each table, but can select data from each view?

Deny Select On vCategories To Public;

Deny Select On vProducts To Public;

Deny Select On vEmployees To Public;

Deny Select On vInventories To Public;

go

Grant Select On vCategories To Public;

Grant Select On vProducts To Public;

Grant Select On vEmployees To Public;

Grant Select On vInventories To Public;

go

-- Question 3 (10% pts): How can you create a view to show a list of Category and Product names,

-- and the price of each product?

-- Order the result by the Category and Product!

-- Here is an example of some rows selected from the view:

-- CategoryName ProductName UnitPrice

-- Beverages Chai 18.00

-- Beverages Chang 19.00

-- Beverages Chartreuse verte 18.00

-----------------------list of Category and Product------------------------

Create View vProductsByCategories

AS

Select Top 1000

C.CategoryName,P. ProductName, P.UnitPrice

From vCategories as C

Inner Join vProducts as P

On C.CategoryID=P.CategoryID

Order by 1,2,3

go

-- Question 4 (10% pts): How can you create a view to show a list of Product names

-- and Inventory Counts on each Inventory Date?

-- Order the results by the Product, Date, and Count!

-- Here is an example of some rows selected from the view:

-- ProductName InventoryDate Count

-- Alice Mutton 2017-01-01 0

-- Alice Mutton 2017-02-01 10

-- Alice Mutton 2017-03-01 20

-- Aniseed Syrup 2017-01-01 13

-- Aniseed Syrup 2017-02-01 23

-- Aniseed Syrup 2017-03-01 33

Create View vInventoriesByProductsByDates

AS

Select Top 1000

P. ProductName, I.InventoryDate,I.[Count]

From vProducts as P

Inner Join vInventories as I

On P.ProductID=I.ProductID

Order by 1,2,3

go

-- Question 5 (10% pts): How can you create a view to show a list of Inventory Dates

-- and the Employee that took the count?

-- Order the results by the Date and return only one row per date!

-- Here is are the rows selected from the view:

-- InventoryDate EmployeeName

-- 2017-01-01 Steven Buchanan

-- 2017-02-01 Robert King

-- 2017-03-01 Anne Dodsworth

Create View vInventoriesByEmployeesByDates

AS

Select Distinct Top 1000

I.InventoryDate,

E.EmployeeFirstName + ' '+ E.EmployeeLastName as EmployeeName

From vInventories as I

Inner Join vEmployees as E

On I.EmployeeID=E.EmployeeID

Order by 1,2;

go

-- Question 6 (10% pts): How can you create a view show a list of Categories, Products,

-- and the Inventory Date and Count of each product?

-- Order the results by the Category, Product, Date, and Count!

-- Here is an example of some rows selected from the view:

-- CategoryName,ProductName,InventoryDate,Count

-- CategoryName ProductName InventoryDate Count

-- Beverages Chai 2017-01-01 39

-- Beverages Chai 2017-02-01 49

-- Beverages Chai 2017-03-01 59

-- Beverages Chang 2017-01-01 17

-- Beverages Chang 2017-02-01 27

-- Beverages Chang 2017-03-01 37

Create View vInventoriesByProductsByCategories

AS

Select Top 1000

C.CategoryName,P.ProductName, I.InventoryDate,I.[Count]

From vInventories as I

Inner Join vEmployees as E

On I.EmployeeID=E.EmployeeID

Inner Join vProducts as P

on I.ProductID=P.ProductID

Inner Join vCategories as C

on P.CategoryID=C.CategoryID

Order by 1,2,3,4;

go

-- Question 7 (10% pts): How can you create a view to show a list of Categories, Products,

-- the Inventory Date and Count of each product, and the EMPLOYEE who took the count?

-- Order the results by the Inventory Date, Category, Product and Employee!

-- Here is an example of some rows selected from the view:

-- CategoryName ProductName InventoryDate Count EmployeeName

-- Beverages Chai 2017-01-01 39 Steven Buchanan

-- Beverages Chang 2017-01-01 17 Steven Buchanan

-- Beverages Chartreuse verte 2017-01-01 69 Steven Buchanan

-- Beverages Côte de Blaye 2017-01-01 17 Steven Buchanan

-- Beverages Guaraná Fantástica 2017-01-01 20 Steven Buchanan

-- Beverages Ipoh Coffee 2017-01-01 17 Steven Buchanan

-- Beverages Lakkalikööri 2017-01-01 57 Steven Buchanan

Create View vInventoriesByProductsByEmployees

AS

Select Top 1000

C.CategoryName,P.ProductName, I.InventoryDate,I.[Count],

E.EmployeeFirstName + ' '+ E.EmployeeLastName as EmployeeName

From vInventories as I

Inner Join vEmployees as E

On I.EmployeeID=E.EmployeeID

Inner Join vProducts as P

on I.ProductID=P.ProductID

Inner Join vCategories as C

on P.CategoryID=C.CategoryID

Order by 3,1,2,4;

go

-- Question 8 (10% pts): How can you create a view to show a list of Categories, Products,

-- the Inventory Date and Count of each product, and the Employee who took the count

-- for the Products 'Chai' and 'Chang'?

-- Here are the rows selected from the view:

-- CategoryName ProductName InventoryDate Count EmployeeName

-- Beverages Chai 2017-01-01 39 Steven Buchanan

-- Beverages Chang 2017-01-01 17 Steven Buchanan

-- Beverages Chai 2017-02-01 49 Robert King

-- Beverages Chang 2017-02-01 27 Robert King

-- Beverages Chai 2017-03-01 59 Anne Dodsworth

-- Beverages Chang 2017-03-01 37 Anne Dodsworth

Create View vInventoriesForChaiAndChangByEmployees

AS

Select Top 1000

C.CategoryName,P.ProductName, I.InventoryDate,I.[Count],

E.EmployeeFirstName + ' '+ E.EmployeeLastName as EmployeeName

From vInventories as I

Inner Join vEmployees as E

On I.EmployeeID=E.EmployeeID

Inner Join vProducts as P

on I.ProductID=P.ProductID

Inner Join vCategories as C

on P.CategoryID=C.CategoryID

Where I.ProductID In(Select ProductID From vProducts where ProductName In('Chai', 'Chang'))

Order by 3,1,2,4;

go

-- Question 9 (10% pts): How can you create a view to show a list of Employees and the Manager who manages them?

-- Order the results by the Manager's name!

Create View vEmployeesByManager

As Select Top 1000

M. EmployeeFirstName +' '+ M. EmployeeLastName as Manager,

E.EmployeeFirstName +' '+ E. EmployeeLastName as Employee

From vEmployees as E

Inner Join vEmployees as M

on E.ManagerID=M.EmployeeID

Order by 1,2

go

-- Here are teh rows selected from the view:

-- Manager Employee

-- Andrew Fuller Andrew Fuller

-- Andrew Fuller Janet Leverling

-- Andrew Fuller Laura Callahan

-- Andrew Fuller Margaret Peacock

-- Andrew Fuller Nancy Davolio

-- Andrew Fuller Steven Buchanan

-- Steven Buchanan Anne Dodsworth

-- Steven Buchanan Michael Suyama

-- Steven Buchanan Robert King

-- Question 10 (20% pts): How can you create one view to show all the data from all four

-- BASIC Views? Also show the Employee's Manager Name and order the data by

-- Category, Product, InventoryID, and Employee.

-- Here is an example of some rows selected from the view:

-- CategoryID CategoryName ProductID ProductName UnitPrice InventoryID InventoryDate Count EmployeeID Employee

-- 1 Beverages 1 Chai 18.00 1 2017-01-01 39 5 Steven Buchanan

-- 1 Beverages 1 Chai 18.00 78 2017-02-01 49 7 Robert King

-- 1 Beverages 1 Chai 18.00 155 2017-03-01 59 9 Anne Dodsworth

-- 1 Beverages 2 Chang 19.00 2 2017-01-01 17 5 Steven Buchanan

-- 1 Beverages 2 Chang 19.00 79 2017-02-01 27 7 Robert King

-- 1 Beverages 2 Chang 19.00 156 2017-03-01 37 9 Anne Dodsworth

-- 1 Beverages 24 Guaraná Fantástica 4.50 24 2017-01-01 20 5 Steven Buchanan

-- 1 Beverages 24 Guaraná Fantástica 4.50 101 2017-02-01 30 7 Robert King

-- 1 Beverages 24 Guaraná Fantástica 4.50 178 2017-03-01 40 9 Anne Dodsworth

-- 1 Beverages 34 Sasquatch Ale 14.00 34 2017-01-01 111 5 Steven Buchanan

-- 1 Beverages 34 Sasquatch Ale 14.00 111 2017-02-01 121 7 Robert King

-- 1 Beverages 34 Sasquatch Ale 14.00 188 2017-03-01 131 9 Anne Dodsworth

Create View vInventoriesByProductsByCategoriesByEmployees

As

Select top 1000

C.CategoryID, C.CategoryName,

P. ProductID, P.ProductName, P. UnitPrice,

I.InventoryID, I.InventoryDate, I.[Count],

E.EmployeeID,

E. EmployeeFirstName +' '+ M. EmployeeLastName as Employee,

M.EmployeeFirstName +' '+ E. EmployeeLastName as Manager

From vCategories as C

Inner Join vProducts as P

On P.CategoryID=C.CategoryID

Inner Join vInventories as I

on P.ProductID=I.ProductID

Inner Join vEmployees as E

on I.EmployeeID=E.EmployeeID

Inner Join vEmployees as M

on E.ManagerID=M.EmployeeID

Order by 1,3,6,9;

go

-- Test your Views (NOTE: You must change the names to match yours as needed!)

Print 'Note: You will get an error until the views are created!'

Select \* From [dbo].[vCategories]

Select \* From [dbo].[vProducts]

Select \* From [dbo].[vInventories]

Select \* From [dbo].[vEmployees]

Select \* From [dbo].[vProductsByCategories]

Select \* From [dbo].[vInventoriesByProductsByDates]

Select \* From [dbo].[vInventoriesByEmployeesByDates]

Select \* From [dbo].[vInventoriesByProductsByCategories]

Select \* From [dbo].[vInventoriesByProductsByEmployees]

Select \* From [dbo].[vInventoriesForChaiAndChangByEmployees]

Select \* From [dbo].[vEmployeesByManager]

Select \* From [dbo].[vInventoriesByProductsByCategoriesByEmployees]

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