|  |  |  |
| --- | --- | --- |
| **Name** | : | **Sathish Kumar Rajendiran** |
| **Current Date** | : | **03/14/2020** |
| **Lab Number** | : | **10** |

**Part 1 – Creating a Graphical User Interface (GUI)**

* ***ODBC Connections and Form-Sub Form Creation***

**A screenshot of a social media post

Description automatically generated**A screenshot of a cell phone

Description automatically generated

A picture containing screenshot

Description automatically generatedA screenshot of a cell phone

Description automatically generated

* ***Working with UserLogin form***

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

USE [IST659\_M406\_srajendi]

GO

/\*

Title : Lab 10 -SQL Scripts

Author : Sathish Kumar Rajendiran

Course : IST659 M406

Term : March, 2020

\*/

----The Following line shows all of the rows for UserName "tardy"

Select

USR.UserName

,UL.\*

From dbo.vc\_User USR

Join dbo.vc\_UserLogin UL

on USR.vc\_UserID=UL.vc\_UserID

Where Lower(USR.UserName) ='tardy'

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

**Explanation:**

1. If we only provided a value for LoginLocation, how did the software know what to use or vc\_UserLoginID and UserLoginTimestamp?

Based on the Table Creation script, It was expecting only LoginLocation as mandate input field; where as UserLoginTimestamp is option with default value as current date (getdate()) and vc\_UserID being foreign key to vc\_User’s UserID column and vc\_UserLoginID itself an identity key that gets values added incrementally.

--Creating the UserLogin table

CREATE TABLE vc\_UserLogin (

--Columns for the UserLogin table

vc\_UserLoginID int identity CONSTRAINT PK\_vc\_UserLogin PRIMARY KEY (vc\_UserLoginID),

vc\_UserID int not null CONSTRAINT FK1\_vc\_UserLogin FOREIGN KEY (vc\_UserID) REFERENCES vc\_User(vc\_UserID),

UserLoginTimestamp datetime not null default GetDate(),

LoginLocation varchar(50) not null

)

GO

1. Based on what the behavior we saw and the form/sub form relationship, how did the software know which vc\_UserID to use for the vc\_UserLogin record?

We have added one to many relationships (**inner join property**) between dbo.vc\_User and dbo.vc\_UserLogin table based on vc\_UserID foreign key relation. In addition, when we searched for the user “**tardy**” it had filter setup to show only that user on the UserID column mapping on dbo.vc\_UserLogin table.

A screenshot of a cell phone

Description automatically generated

In addition, we have also configured the form/sub form to be driven by dbo.vc\_User table as belowA screenshot of a cell phone

Description automatically generated

1. What are some pros and cons (at least 2 of each) to using Access to manage SQL Server data?

Pros of using Access to manage SQL Server Data:

* + - Users with minimal SQL (Querying language) can easily manage data via Access; Mostly, business users with specific data needs can manage their data entry easily without having to write any SQL Code
    - Interactive Form to label the database fields in more user/business friendly names
    - Search is easier; locating a particular is easier to human eyes.
    - Gives lot more flexibility to add/delete/modify records with simple mouse/key board strokes.
    - Because, actual data is stored on SQL Server – No need to worry about additional storage
    - Its cost effective (mostly free) when bundled with Office products.
    - Simple configuration

Cons of using Access to manage SQL Server Data:

* + - Not recommended for operational large databases as the file size can increase
    - Sometimes the form/connections cause failure/crashes when dealing with large dataset.
    - It may impose additional data security concerns over sensitive data being exposed to business users; All objects will be exposed causing confusions and unwanted expose of those objects to users.
    - Other concern may also relate to Operating system level compatibilities or differences may corrupt access database file.
    - UI – Look and feel of Form/Sub form may often cause confusions if designed not properly.

**Part 2 – Using R to Connect to SQL Server**

A screenshot of a social media post

Description automatically generated

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

**Explanation:**

1. In reference to the script in step 4, what does the SQL code on line 12 do?

DATEPART(dw,VC.StartDateTime) as StartDayOfWeek

This script returns the Day of week as integer.

A screenshot of a cell phone

Description automatically generated

1. What is one way to simplify lines 8 through 19? (think lab 8...)
   * + One way to simplify lines 8 through 19 is by promoting the SQL Statements into a View and calling that view instead of hardcoded SQLs here. So, we could manage the SQLs easily.