FIT1013 – Digital Futures: IT for Business
Tutorial 9 – Modularisation, Structure Charts and Connecting to External Data

Objectives
- Discuss program design approaches
- Design modules using structure charts
- Import data from external files

Reminder:

1. Ensure the Developer tab is visible on the Ribbon (If not, go to **File->Options->Customize Ribbon**, and select **Developer** in the **Main Tabs** list).

2. Save your file as ***Excel Macro-Enabled Workbook (*.xlsm)*** type. Save your file as *Tute9.xlsm*

3. Open the VBE (Visual Basic editor) by selecting the **Developer** tab, then clicking the **Visual Basic** button on the **Code group** (or by pressing **<Alt>** and **<F11>**).

Exercise 1
- Use the downloaded copy of Tute9.accdb.
- Insert a user form and add the following controls.

Properties for the user form

Property	Value
Name	frmSelProducts
Caption	Select Product

CommandButton1

Property	Value
Name	cmdProductId
Caption	Product ID

CommandButton2

Property	Value
Name	cmdProductName
Caption	Product Name

ListBox control:

Property	Value
Name	lstProducts

- To extract data from Access and use it to populate the list box.
- Use the following code in click event of the **cmdProductId**.

Code:

```
'the following code extracts data from Access

Dim rstProduct As ADODB.Recordset
Dim strOrderDatabase As String, strConnectionString As String

'Clear list contents
 lstProducts.Clear

strOrderDatabase = ActiveWorkbook.Path & "\Tute9.accdb"
strConnectionString = "Provider=Microsoft.Ace.OLEDB.12.0;Data Source=" & strOrderDatabase & _
            ";Persist Security Info=False"

' create a recordset
Set rstProduct = New ADODB.Recordset
rstProduct.Open "Select ProductID from ProductTable", strConnectionString, adOpenStatic

Do While Not rstProduct.EOF

   lstProducts.AddItem rstProduct("ProductID")

   rstProduct.MoveNext

Loop
```

- Use the following code in click event of the **cmdProductName**

```
'the following code extracts data from Access

Dim rstProduct As ADODB.Recordset
Dim strOrderDatabase As String, strConnectionString As String

'Clear list contents
 lstProducts.Clear

strOrderDatabase = ActiveWorkbook.Path & "\Tute9.accdb"
strConnectionString = "Provider=Microsoft.Ace.OLEDB.12.0;Data Source=" & strOrderDatabase & _
            ";Persist Security Info=False"

' create a recordset
Set rstProduct = New ADODB.Recordset
rstProduct.Open "Select ProductName from ProductTable", strConnectionString, adOpenStatic

Do While Not rstProduct.EOF

   lstProducts.AddItem rstProduct("ProductName")
   rstProduct.MoveNext

Loop
```

Save your work and test your application.

Note
If you get an error "user defined object not defined" you have to set references to the relevant object library.
Go to Tools>References and select "Microsoft ActiveX Data Objects 2.5 Library"

Exercise 2

- Use the downloaded copy of Tute9.accdb.
- Insert a user form and add the following controls.

Properties for the user form

Property	Value
Name	frmExportCustomer
Caption	Export Customers

Label1

Property	Value
Caption	Customer ID:

Label2

Property	Value
Caption	Name:

TextBox1

Property	Value
Name	txtCustomerID
Text	<Blank>

TextBox2

Property	Value
Name	txtName
Caption	<Blank>

CommandButton1

Property	Value
Name	cmdExport
Caption	Export

CommandButton2

Property	Value
Name	cmdClose
Caption	Close

- Use the following code in click event of the **cmdExport**

```
Dim rstExport As ADODB.Recordset
    Dim strOrderDatabase As String, strConnectionString As String

    strOrderDatabase = ActiveWorkbook.Path & "\Tute9.accdb"
    strConnectionString = "Provider=Microsoft.Ace.OLEDB.12.0;Data Source=" & _
    strOrderDatabase & ";Persist Security Info=False"

    ' (1) Create a Recordset (2) Delete all Records in Customer table
    Set rstExport = New ADODB.Recordset
    rstExport.Open "Delete * from tblCustomer", strConnectionString, adOpenStatic
    Set rstExport = Nothing

        ' (1) reCreate same Recordset again (2) Open up Interface Connection for Data Transfer
    Set rstExport = New ADODB.Recordset
```

```
rstExport.Open Source:="tblCustomer", ActiveConnection:=strConnectionString, _
CursorType:=adOpenDynamic, LockType:=adLockOptimistic, _
Options:=adCmdTable

With rstExport
 .AddNew
 .Fields![CustomerID] = txtCustomerID.Text
 .Fields![CustomerName] = txtName.Text
 .Save 'save Record
End With

'destroy the record set
rstExport.Close
Set rstExport = Nothing
```

Exercise 3
Please use the rest of the time to work on your assignment 2.