**Advance Excel Assignment 21**

1. **Write a VBA code to enter your name in A1 Cell using Input Box and once you enter the name display a message box that says the name has been entered.**

Here's a VBA code to enter your name in cell A1 using an Input Box and then display a message box confirming that the name has been entered:

*Sub EnterName()*

*Dim userName As String*

*' Prompt the user to enter their name using an Input Box*

*userName = InputBox("Please enter your name:", "Enter Name")*

*' Check if the user entered a name*

*If userName <> "" Then*

*' Enter the name in cell A1*

*Range("A1").Value = username*

*' Display a message box with a confirmation message*

*MsgBox "Name '" & userName & "' has been entered in cell A1.", vbInformation*

*End If*

*End Sub*

After running this code, an Input Box will appear, prompting you to enter your name. Once you enter your name and click "OK," the name will be entered in cell A1, and a message box will appear confirming that the name has been entered. If you cancel the Input Box without entering a name, the code will not do anything.

1. **What are Userforms? Why are they used? How to fill a list box using for loop.**

Userforms are custom dialog boxes in Excel VBA that allow users to interact with your VBA application. They provide an interface for users to input data, make selections, or perform other actions in a more user-friendly way.

**Userforms are used for:**

* **Data Input**: Users can enter data in textboxes, select options from comboboxes, or choose from predefined items in list boxes.
* **Data Display**: Userforms can display information, messages, or reports in a more organized and presentable manner.
* **User Interaction**: Userforms enable interaction with VBA macros and enhance the user experience in Excel.

**To fill a list box using a for loop in VBA, follow these steps:**

* Create a Userform in the VBA Editor by clicking "Insert" -> "Userform."
* Add a List Box control to the Userform by clicking the "List Box" icon in the Toolbox and then drawing it on the Userform.
* Double-click the Userform to access the code window for the Userform.
* In the code window, use a for loop to add items to the list box:

*Private Sub UserForm\_Initialize()*

*Dim i As Integer*

*Dim maxItems As Integer*

*maxItems = 10 ' Replace 10 with the number of items you want to add*

*For i = 1 To maxItems*

*ListBox1.AddItem "Item " & i*

*Next i*

*End Sub*

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In this example, the Userform's Initialize event is used to fill the list box with 10 items ("Item 1," "Item 2," ... "Item 10") using a for loop. Replace maxItems with the desired number of items you want to add.

After running the code, when you display the Userform, the list box will be filled with the items created using the for loop.

1. **What is an array? Write a VBA code to enter students and their marks from the below table.**

*Sub EnterStudentMarks()*

*Dim studentMarks(1 To 4, 1 To 2) As Variant*

*studentMarks(1, 1) = "John"*

*studentMarks(1, 2) = 85*

*studentMarks(2, 1) = "Mary"*

*studentMarks(2, 2) = 92*

*studentMarks(3, 1) = "David"*

*studentMarks(3, 2) = 78*

*studentMarks(4, 1) = "Sarah"*

*studentMarks(4, 2) = 90*

*Range("A1").Resize(4, 2).Value = studentMarks*

*End Sub*

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1. **Use the following data to create a pie chart using VBA code. Use Font - ‘Times new Roman’, Size -14, Bold, Title - Piechart’ and you are per to use colours as per your taste.**

*Sub CreatePieChart()*

*'Declare variables*

*Dim cht As Chart*

*Dim rng As Range*

*Dim data As Variant*

*Dim i As Integer*

*'Define data for chart*

*data = Array(20, 30, 40, 10)*

*'Set range for chart data*

*Set rng = Range("A1:A4")*

*'Create chart*

*Set cht = ActiveSheet.Shapes.AddChart2(251, xlPie).Chart*

*'Set chart title and font*

*With cht*

*.HasTitle = True*

*.ChartTitle.Text = "Pie Chart"*

*.ChartTitle.Font.Name = "Times New Roman"*

*.ChartTitle.Font.Size = 14*

*.ChartTitle.Font.Bold = True*

*End With*

*'Add data to chart*

*With cht.SeriesCollection.NewSeries*

*.Values = data*

*.XValues = rng*

*.Name = "Data"*

*End With*

*'Set chart colors*

*For i = 1 To UBound(data)*

*cht.SeriesCollection(1).Points(i).Interior.Color = RGB(255 - i \* 20, i \* 30, i \* 40)*

*Next i*

*End Sub*

1. **Check the dataset in the link given below and create a pivot table using VBA showing the sales for the year from stationary category.**

*Sub CreatePivotTable()*

*'Declare variables*

*Dim pvt As PivotTable*

*Dim rngData As Range*

*Dim rngPivot As Range*

*'Set range for data and pivot table*

*Set rngData = Range("A1:C100") 'Change to match your data range*

*Set rngPivot = Range("E3") 'Change to match the starting cell of your pivot table*

*'Create pivot table*

*Set pvt = ActiveSheet.PivotTableWizard (SourceType:=xlDatabase, SourceData:=rngData, TableDestination:=rngPivot, TableName:="StationarySalesPivotTable")*

*'Add fields to pivot table*

*With pvt*

*.PivotFields("Category").Orientation = xlRowField*

*.PivotFields("Category").Position = 1*

*.PivotFields("Year").Orientation = xlColumnField*

*.PivotFields("Year").Position = 1*

*.AddDataField .PivotFields("Sales"), "Sales", xlSum*

*.PivotFields("Category").CurrentPage = "Stationary"*

*End With*

*'Format pivot table*

*With pvt.TableRange1*

*.Font.Name = "Calibri"*

*.Font.Size = 12*

*.HorizontalAlignment = xlCenter*

*.VerticalAlignment = xlCenter*

*End With*

*End Sub*

1. **Write step by step procedure to protect your workbook using a password.**

Step-by-step procedure to protect your workbook using a password in Excel:

* Open your Excel workbook.
* Click on the "File" tab in the top-left corner of the Excel window.
* From the File menu, select "Save As."
* In the Save As dialog box, choose a location where you want to save the protected workbook.
* In the "Save as type" drop-down menu, select "Excel Workbook (\*.xlsx)" or the appropriate file format for your workbook.
* Click the "Tools" dropdown button in the bottom-right corner of the Save As dialog box.
* Select "General Options" from the Tools menu. This will open the General Options dialog box.
* In the General Options dialog box, you'll see two text fields: "Password to open" and "Password to modify."
* Enter a password of your choice in the "Password to open" field. This will be the password required to open the workbook.
* If you want to prevent others from making changes to the workbook, enter a password in the "Password to modify" field as well. This will be the password required to make changes to the workbook.
* Click "OK" to close the General Options dialog box.
* Back in the Save As dialog box, click "Save" to save the workbook with the passwords you set.

The workbook is now protected with a password. Whenever someone tries to open the workbook, they will be prompted to enter the password set in the "Password to open" field. If we set a "Password to modify," they will also need to enter that password to make changes to the workbook.