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.

Ans=>

```
Sub EnterNameAndDisplayMessage()
    Dim enteredName As String

    ' Prompt the user to enter a name
    enteredName = InputBox("Enter your name:", "Name Entry")

    ' Check if the user entered a name
    If enteredName <> "" Then
        ' Enter the name in cell A1
        Range("A1").Value = enteredName

        ' Display a message box indicating that the name has been entered
        MsgBox "Name '" & enteredName & "' has been entered in cell A1.", vbInformation
    Else
        ' Display a message if the user canceled the input
        MsgBox "No name entered. Operation canceled.", vbExclamation
    End If
End Sub
```

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

Ans=>

UserForm is a custom dialog box or form in excel or form in excel that you can create and design using the Visual Basic for Applications programming language. They provide a way to create interactive interfaces for users to input data, make selections, and perform various tasks within excel.

Why are UserForms used:

1. Customised Interfaces: UserForms allow you to create customized and user-friendly inerfaces tailored to specific or data entry requirements.
2. Automation: UserForms can be used to automate certain processes by guiding users through step-by-step procedures or capturing specific information.
3. Data Validation: you can use UserForms to implement data visualization, ensuring that users enter accurate and valid information.

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

Ans=> Array is a collection of values, variables, or objects arranged in rows and columns. Excel supports both one-dimensional arrays and two-dimensional arrays. Arrays are useful for performing operations on a set of data simultaneously.

Ans=>

```
Name    Marks
John        85
Jane        92
Bob         78
Alice       95

Sub EnterStudentsAndMarks()
    Dim studentData As Variant
    Dim studentCount As Integer
    Dim i As Integer

    ' Assuming data starts from A2 and B2
    studentData = Range("A2:B" & Cells(Rows.Count, 1).End(xlUp).Row).Value
    studentCount = UBound(studentData, 1)

    ' Loop through the array and process each student
    For i = 1 To studentCount
        Dim studentName As String
        Dim studentMarks As Integer

        ' Retrieve data for each student
        studentName = studentData(i, 1)
        studentMarks = studentData(i, 2)

        ' You can perform any desired operation with the student data here
        ' For example, enter the data into another sheet or perform calculations

        ' For demonstration purposes, print the student data in the Immediate Window
        Debug.Print "Student Name: " & studentName & ", Marks: " & studentMarks
    Next i
End Sub
```

4. 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.

Ans=>
```
Sub CreatePieChart()
    Dim chartObj As ChartObject
    Dim rng As Range

    ' Define the range that contains the data for the pie chart
    Set rng = ThisWorkbook.Sheets("Sheet1").Range("C1:D187")

    ' Create a new chart
    Set chartObj = ThisWorkbook.Sheets("Sheet1").ChartObjects.Add( _
        Left:=100, Width:=375, Top:=50, Height:=225)
    With chartObj.Chart
        .SetSourceData Source:=rng
```

```
    .ChartType = xlPie

    ' Format the chart title
    .HasTitle = True
    .ChartTitle.Text = "Piechart"
    .ChartTitle.Font.Name = "Times New Roman"
    .ChartTitle.Font.Size = 14
    .ChartTitle.Font.Bold = True

    ' Customizing the pie chart colors
    .SeriesCollection(1).Points(1).Format.Fill.ForeColor.RGB = RGB(255, 0, 0) ' Red
    .SeriesCollection(1).Points(2).Format.Fill.ForeColor.RGB = RGB(0, 255, 0) ' Green
    .SeriesCollection(1).Points(3).Format.Fill.ForeColor.RGB = RGB(0, 0, 255) ' Blue
    ' Add more colors as needed
  End With
End Sub
```
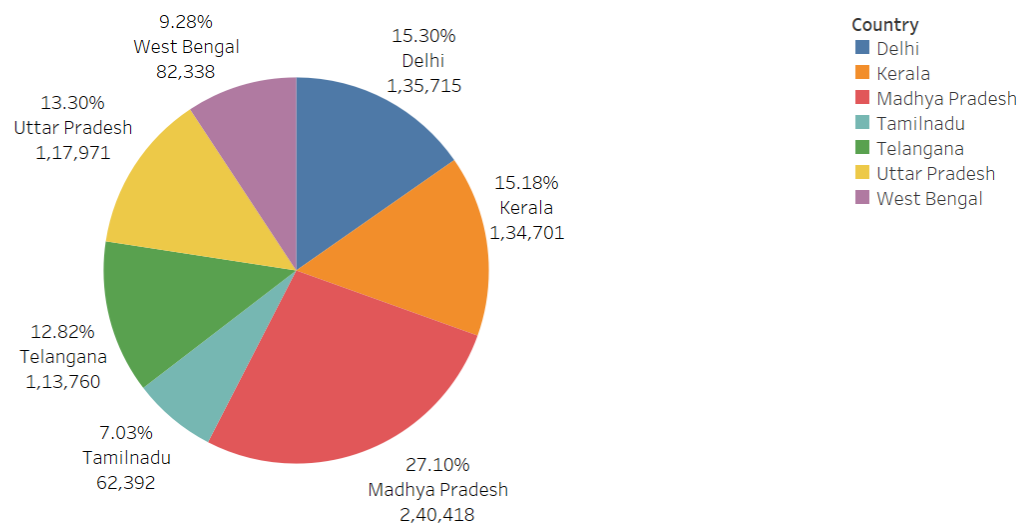

5. Check the dataset in the link given below and create a pivot table using VBA showing the sales for the year from stationary category.

    https://docs.google.com/spreadsheets/d/1IRSEnmgz8Ro276-GslknRNk0zlrB5CZH1YrnT71kqFM/edit?usp=sharing

Ans=>

```
Sub CreatePivotTable()
    Dim ws As Worksheet
    Dim pt As PivotTable
    Dim pf As PivotField
    Dim pi As PivotItem
    Dim rng As Range
```

```
    ' Set the worksheet
    Set ws = ThisWorkbook.Sheets("Sheet6")
    ' Define the data range
    Set rng = ws.Range("A1").CurrentRegion
    ' Add a new worksheet for the pivot table
    Sheets.Add(After:=Sheets(Sheets.Count)).Name = "PivotTableSheet"
    Set wsPivot = Sheets("PivotTableSheet")
    ' Create the pivot table
    Set pt = wsPivot.PivotTableWizard(SourceType:=xlDatabase, SourceData:=rng,
TableDestination:=wsPivot.Range("A3"), TableName:="MyPivotTable")
    ' Add "Category" field to Rows
    Set pf = pt.PivotFields("Category")
    pf.Orientation = xlRowField
    pf.Position = 1
    ' Add "Amount" field to Values
    Set pf = pt.PivotFields("Amount")
    pf.Orientation = xlDataField
    pf.Function = xlSum
    pf.Position = 1
    ' Filter the pivot table to show only "Stationary" category
    Set pf = pt.PivotFields("Category")
    pf.PivotItems("Stationary").Visible = True
    For Each pi In pf.PivotItems
        If pi.Name <> "Stationary" Then
            pi.Visible = False
        End If
    Next pi
End Sub
```

Sum of Amount	
Category ⏷	Total
Stationary	693069
Grand Total	693069

6. Write step by step procedure to protect your workbook using a password.
   Ans=>
a)Open your workbook: launch Microsoft Excel and open the workbook you want to protect, save the workbook.
b)Navigate to the "File" tab: Click on the "File" tab ribbon to access the Backstage view.
c) Go to "Info": click on the "Info" to access workbook related options.
d) select "Protected Workbook": under "Info" section you will find the "Protect Workbook" option. Click on the dropdown arrow next to it.
e)Choose "Encrypt with password": select "Encrypt with Password" from the dropdown menu.
f) Set a Password: a dialog box will appear prompting you to enter a password. Type the password you want to use to protect the workbook.