Sub CreateDashboardCards()

**Code for dashboard**

Dim ws As Worksheet

Set ws = ThisWorkbook.Sheets("Dashboard") ' Change if your target sheet has a different name

Dim topMargin As Double: topMargin = 60 ' Row 5 starts approx 60 pixels down

Dim leftMargin As Double: leftMargin = 12

Dim shapeTop As Double, shapeLeft As Double

Dim cardNames As Variant

Dim widths As Variant, heights As Variant

Dim i As Integer

' Card properties

cardNames = Array("cfilters", "ctsales", "ctmargin", "cpmargin", "ccustcount", "ctop10", \_

"csalestrend", "ccustsource", "csalescity", \_

"csalesservice", "cdeptmargin", "cnewrepeat")

widths = Array(118.8, 144, 144, 144, 273.6, 180, \_

475.2, 187.2, 187.2, \_

295.2, 180, 360) ' in pixels (1 inch = 96 pixels)

heights = Array(72, 72, 72, 72, 72, 381.6, \_

201.6, 201.6, 201.6, \_

201.6, 201.6, 201.6)

' Clear previous shapes

Dim shp As Shape

For Each shp In ws.Shapes

shp.Delete

Next shp

' Remove gridlines and set background color

ws.Activate

ActiveWindow.DisplayGridlines = False

ws.Cells.Interior.Color = RGB(217, 217, 217)

' Add cards

shapeTop = topMargin

shapeLeft = leftMargin

For i = 0 To 11

Set shp = ws.Shapes.AddShape(msoShapeRoundedRectangle, shapeLeft, shapeTop, widths(i), heights(i))

With shp

.Fill.ForeColor.RGB = RGB(255, 255, 255)

.Line.Visible = msoFalse

.Adjustments(1) = 0.03 ' Rounded corner

.Name = cardNames(i)

End With

' Update left for next card

shapeLeft = shapeLeft + widths(i) + 12

' Wrap to next row

If i = 5 Then ' After card 6

shapeTop = shapeTop + 72 + 12

shapeLeft = leftMargin

ElseIf i = 8 Then ' After card 9

shapeTop = shapeTop + 201.6 + 12

shapeLeft = leftMargin

End If

Next i

MsgBox "Dashboard cards created successfully!", vbInformation

End Sub

**Code for pivot tables**

Sub GeneratePivotTables()

Dim wsData As Worksheet, wsPivot As Worksheet

Dim ptCache As PivotCache, pt As PivotTable

Dim tbl As ListObject

Dim startRow As Long, i As Integer

Dim lastRow As Long

' Set references

Set wsData = ThisWorkbook.Sheets("Data")

Set wsPivot = ThisWorkbook.Sheets("Pivot")

Set tbl = wsData.ListObjects("salesdata")

' Clear Pivot sheet

wsPivot.Cells.Clear

startRow = 1

' Loop to create 10 pivot tables

For i = 1 To 10

' Create pivot cache from the named table

Set ptCache = ThisWorkbook.PivotCaches.Create( \_

SourceType:=xlDatabase, \_

SourceData:=tbl.Name)

' Add the PivotTable

Set pt = ptCache.CreatePivotTable( \_

TableDestination:=wsPivot.Cells(startRow, 1), \_

TableName:="pivot" & i)

With pt

.ShowTableStyleRowStripes = True

.TableStyle2 = "PivotStyleMedium9"

.RowAxisLayout xlTabularRow

End With

' Define layout based on pivot index

Select Case i

Case 1 ' totalsales

pt.AddDataField pt.PivotFields("Sales Amount"), "Total Sales", xlSum

Case 2 ' totalmargin

pt.AddDataField pt.PivotFields("Margin Amount"), "Total Margin", xlSum

Case 3 ' customerscount

pt.PivotFields("Sale Type").Orientation = xlRowField

pt.AddDataField pt.PivotFields("Customer Name"), "Customer Count", xlCount

Case 4 ' salestrend

With pt

.PivotFields("Year").Orientation = xlRowField

.PivotFields("Month").Orientation = xlRowField

.AddDataField .PivotFields("Sales Amount"), "Total Sales", xlSum

End With

Case 5 ' customersource

With pt

.PivotFields("Year").Orientation = xlRowField

.PivotFields("Customer Source").Orientation = xlColumnField

.AddDataField .PivotFields("Sales Amount"), "Total Sales", xlSum

End With

Case 6 ' salesbycity

pt.PivotFields("City").Orientation = xlRowField

pt.AddDataField pt.PivotFields("Sales Amount"), "Total Sales", xlSum

Case 7 ' top10

With pt

.PivotFields("Customer Name").Orientation = xlRowField

.AddDataField .PivotFields("Sales Amount"), "Total Sales", xlSum

On Error Resume Next

.PivotFields("Customer Name").AutoShow xlAutomatic, xlTop, "Total Sales", 10

On Error GoTo 0

End With

Case 8 ' salesbyservice

pt.PivotFields("Service").Orientation = xlRowField

pt.AddDataField pt.PivotFields("Sales Amount"), "Total Sales", xlSum

Case 9 ' departmentmargin

pt.PivotFields("Department").Orientation = xlRowField

pt.AddDataField pt.PivotFields("Margin Amount"), "Total Margin", xlSum

Case 10 ' newvsrepeat

With pt

.PivotFields("Year").Orientation = xlRowField

.PivotFields("Month").Orientation = xlRowField

.PivotFields("Sale Type").Orientation = xlColumnField

.AddDataField .PivotFields("Sales Amount"), "Total Sales", xlSum

End With

End Select

' Move to the next row after this pivot

startRow = startRow + pt.TableRange2.Rows.Count + 3

Next i

MsgBox "All pivot tables generated successfully!", vbInformation

End Sub

**Code for Charts/ Data Visualization**

Sub CreateDashboardCharts()

Dim wsDash As Worksheet, wsPivot As Worksheet

Dim shp As Shape, ch As ChartObject

Dim chartTypes As Variant, pivotNames As Variant, shapeNames As Variant

Dim i As Integer

Dim chartWidth As Double, chartHeight As Double, chartLeft As Double, chartTop As Double

' Define references

Set wsDash = ThisWorkbook.Sheets("Dashboard")

Set wsPivot = ThisWorkbook.Sheets("Pivot")

' Delete existing charts

For Each ch In wsDash.ChartObjects

ch.Delete

Next ch

' Define mappings

chartTypes = Array(xlLine, xlPie, xlDoughnut, xl3DColumn, xlColumnStacked, xl3DPie, xlBarClustered)

pivotNames = Array("Pivot4", "Pivot5", "Pivot6", "Pivot7", "Pivot8", "Pivot9", "Pivot10")

shapeNames = Array("csalestrend", "ccustsource", "csalescity", "ctop10", "csalesservice", "cdeptmargin", "cnewrepeat")

' Loop through each chart to create and format

For i = 0 To 6

Set shp = wsDash.Shapes(shapeNames(i))

' Create chart on Dashboard sheet

Set ch = wsDash.ChartObjects.Add( \_

Left:=0, Top:=0, Width:=100, Height:=100)

With ch

.Chart.SetSourceData Source:=wsPivot.PivotTables(pivotNames(i)).TableRange1

.Chart.ChartType = chartTypes(i)

.Name = "chart\_" & pivotNames(i)

' Resize chart to 90% of shape and center it

chartWidth = shp.Width \* 0.9

chartHeight = shp.Height \* 0.9

chartLeft = shp.Left + (shp.Width - chartWidth) / 2

chartTop = shp.Top + (shp.Height - chartHeight) / 2

.Left = chartLeft

.Top = chartTop

.Width = chartWidth

.Height = chartHeight

' Format chart

With .Chart

.ChartArea.Format.Fill.ForeColor.RGB = RGB(255, 255, 255)

.ChartArea.Format.Line.Visible = msoFalse

' Title formatting

If .HasTitle Then .HasTitle = False

.HasTitle = True

.ChartTitle.Text = pivotNames(i)

With .ChartTitle.Format.TextFrame2.TextRange

.Font.Bold = msoTrue

.Font.Size = 12

.Font.Fill.ForeColor.RGB = RGB(128, 0, 32)

End With

' Legend formatting

If .HasLegend Then

With .Legend.Format.TextFrame2.TextRange

.Font.Size = 10

.Font.Fill.ForeColor.RGB = RGB(80, 0, 20)

End With

End If

End With

End With

Next i

MsgBox "All charts created and formatted successfully!", vbInformation

End Sub