

VBA code

```
Sub GenerateEVReport()

Dim ws As Worksheet, reportWs As Worksheet

Dim dict As Object, cityDict As Object, makeDict As Object, modelDict As Object

Dim lastRow As Long, i As Long

Dim city As String, make As String, model As String, year As Integer

Dim maxCity As String, maxMake As String, maxModel As String

Dim maxCityCount As Long, maxMakeCount As Long, maxModelCount As Long

Dim yearDict As Object, key As Variant, rowNum As Integer

' Set data worksheet (change "Data" to your sheet name)
Set ws = ThisWorkbook.Sheets("EV_Data")

' Create a new worksheet for the report
On Error Resume Next

Set reportWs = ThisWorkbook.Sheets("EV_Report")

If reportWs Is Nothing Then

    Set reportWs = ThisWorkbook.Sheets.Add

    reportWs.Name = "EV_Report"

End If

On Error GoTo 0

reportWs.Cells.Clear

' Initialize dictionaries

Set dict = CreateObject("Scripting.Dictionary")

Set cityDict = CreateObject("Scripting.Dictionary")

Set makeDict = CreateObject("Scripting.Dictionary")
```

```
Set modelDict = CreateObject("Scripting.Dictionary")
```

```
Set yearDict = CreateObject("Scripting.Dictionary")
```

```
' Find last row in data
```

```
lastRow = ws.Cells(Rows.Count, 1).End(xlUp).Row
```

```
' Loop through data to collect counts
```

```
For i = 2 To lastRow
```

```
    city = ws.Cells(i, 1).Value ' City (Column A)
```

```
    make = ws.Cells(i, 5).Value ' Make (Column E)
```

```
    model = ws.Cells(i, 6).Value ' Model (Column F)
```

```
    year = ws.Cells(i, 4).Value ' Model Year (Column D)
```

```
' Count Cities
```

```
If city <> "" Then
```

```
    If cityDict.Exists(city) Then
```

```
        cityDict(city) = cityDict(city) + 1
```

```
    Else
```

```
        cityDict.Add city, 1
```

```
    End If
```

```
End If
```

```
' Count Makes
```

```
If make <> "" Then
```

```
    If makeDict.Exists(make) Then
```

```
        makeDict(make) = makeDict(make) + 1
```

```
    Else
```

```
        makeDict.Add make, 1
```

```

        End If
    End If

    ' Count Models
    If model <> "" Then
        If modelDict.Exists(model) Then
            modelDict(model) = modelDict(model) + 1
        Else
            modelDict.Add model, 1
        End If
    End If

    ' Count Year-wise Distribution
    If yearDict.Exists(year) Then
        yearDict(year) = yearDict(year) + 1
    Else
        yearDict.Add year, 1
    End If

Next i

' Find Top Selling City
maxCityCount = 0
For Each key In cityDict.Keys
    If cityDict(key) > maxCityCount Then
        maxCityCount = cityDict(key)
        maxCity = key
    End If
Next key

```

' Find Most Popular Make

maxMakeCount = 0

For Each key In makeDict.Keys

 If makeDict(key) > maxMakeCount Then

 maxMakeCount = makeDict(key)

 maxMake = key

 End If

Next key

' Find Most Popular Model

maxModelCount = 0

For Each key In modelDict.Keys

 If modelDict(key) > maxModelCount Then

 maxModelCount = modelDict(key)

 maxModel = key

 End If

Next key

' Generate Report Output

reportWs.Range("A1").Value = "Electric Vehicles Analysis Report"

reportWs.Range("A1").Font.Bold = True

reportWs.Range("A1").Font.Size = 14

reportWs.Range("A3").Value = "Top Selling Region (City):"

reportWs.Range("B3").Value = maxCity

reportWs.Range("A4").Value = "Total Vehicles Sold in Top Region:"

reportWs.Range("B4").Value = maxCityCount

```
reportWs.Range("A6").Value = "Most Popular EV Make:"  
reportWs.Range("B6").Value = maxMake  
reportWs.Range("A7").Value = "Total Vehicles for Top Make:"  
reportWs.Range("B7").Value = maxMakeCount
```

```
reportWs.Range("A9").Value = "Most Popular EV Model:"  
reportWs.Range("B9").Value = maxModel  
reportWs.Range("A10").Value = "Total Vehicles for Top Model:"  
reportWs.Range("B10").Value = maxModelCount
```

```
' Year-wise Distribution
```

```
reportWs.Range("A12").Value = "Year-wise Vehicle Distribution:"  
reportWs.Range("A12").Font.Bold = True  
rowNum = 13
```

```
For Each key In yearDict.Keys
```

```
    reportWs.Cells(rowNum, 1).Value = key  
    reportWs.Cells(rowNum, 2).Value = yearDict(key)  
    rowNum = rowNum + 1
```

```
Next key
```

```
' AutoFit Columns
```

```
reportWs.Columns("A:B").AutoFit
```

```
' Notify User
```

```
MsgBox "Electric Vehicles Analysis Report generated successfully!", vbInformation,  
"Report Completed"
```

```
End Sub
```

