VBA Homework raulfloresp

The VBA of Wall Street

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Course:

Data Analytics Boot Camp / ITESM

Introduction VBA Homework

You are well on your way to becoming a programmer and Excel master! In this homework assignment you will use VBA scripting to analyze real stock market data. Depending on your comfort level with VBA, you may choose to challenge yourself with a few of the challenge tasks.

Instructions - Solved

MAIN INSTRUCTIONS

Main Instructions from the Homework

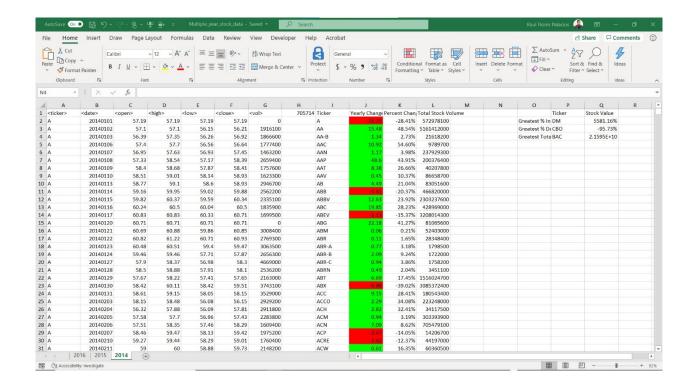
- Create a script that will loop through all the stocks for one year and output the following information.
 - The ticker symbols.
 - Yearly change from opening price at the beginning of a given year to the closing price at the end of that year.
 - The percent change from opening price at the beginning of a given year to the closing price at the end of that year.
 - o The total stock volume of the stock.
- You should also have conditional formatting that will highlight positive change in green and negative change in red.
- The result should look as follows.

CHALLENGES

Your solution will also be able to return the stock with the "Greatest % increase", "Greatest % decrease" and "Greatest total volume". The solution will look as follows:

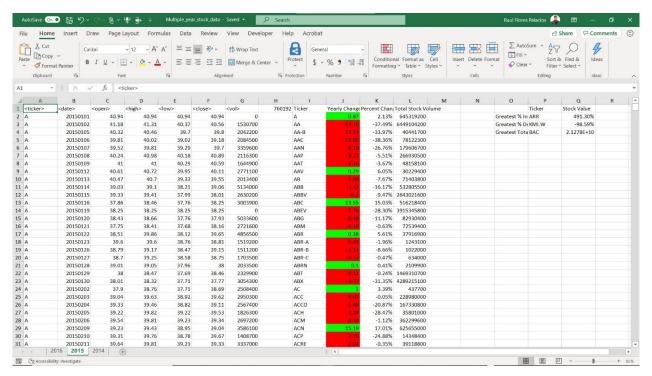
Results Year 2014

Print screen of results of Year 2014



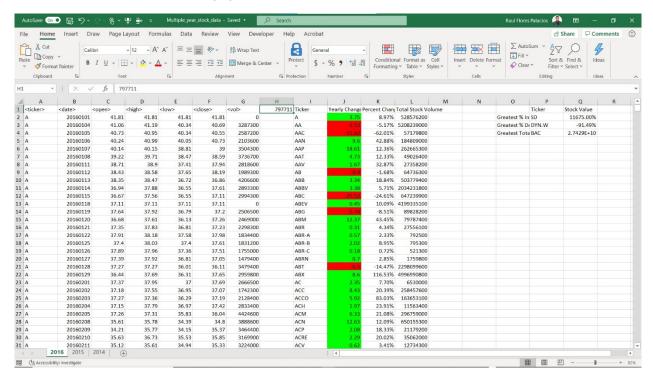
Results Year 2015

Print screen of results of Year 2015



Results Year 2016

Print screen of results of Year 2016



My VBA Code in the next section of this report.

Code VBA

Option Explicit
Dim ws As Worksheet
Sub StockAnalysis()
Loop to repite an action on all Excel sheets in the Active Woorkbook
Reference used: https://powerspreadsheets.com/excel-vba-sheets-worksheets/
Dim LastRow As Long
For Each ws In ActiveWorkbook.Worksheets
ws.Activate
'Read and get the last row in the worksheet
'Multiple ways to get the last row but I used the one with the less coding
https://www.wallstreetmojo.com/vba-last-row/
LastRow = Cells(Rows.Count, "A").End(xlUp).Row
Range("H1").Value = LastRow
'I tried an other alternative to extract unique values on a range but I was not able to solve a loop issue_
'so I abondened it
"https://www.listendata.com/2013/05/excel-3-ways-to-extract-unique-values.html
' ActiveSheet.Range("B2:B" & lastrow).AdvancedFilter _
' Action:=xlFilterCopy,_
CopyToRange:=ActiveSheet.Range("D2"),
Unique:=True
Define general variables

Dim Ticker As String

Dim Yearly_Change As Double

Dim Opening_Price As Double

Dim Closing_Price As Double

Dim Percent_Change As Double

Dim Volume As Double

Dim i As Double

Dim j As Double

Dim k As Double

Dim Row As Integer

Dim YearlyLastRow As Integer

'Assign Titles to our new columns

Cells(1, 9).Value = "Ticker"

Cells(1, 10).Value = "Yearly Change"

Cells(1, 11).Value = "Percent Change"

Cells(1, 12).Value = "Total Stock Volume"

' Set initial values and initial calculations outside the loop

Row = 2

Opening_Price = Cells(2, 3).Value

For i = 2 To LastRow

' Validate the Ticker value and check vs initial value

If Cells(i + 1, 1).Value <> Cells(i, 1).Value Then

' Read and Add the Ticker Name

Ticker = Cells(i, 1).Value

Cells(Row, 9).Value = Ticker

' Add Closing Price

Closing_Price = Cells(i, 6).Value

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' Calculate and Add Yearly Change
    Yearly_Change = Closing_Price - Opening_Price
Cells(Row, 10).Value = Yearly_Change
' Calculate and Add Percent Change
If (Opening_Price = 0 And Closing_Price = 0) Then
Percent_Change = 0
ElseIf (Opening_Price = 0 And Closing_Price <> 0) Then
Percent_Change = 1
Else
Percent_Change = Yearly_Change / Opening_Price
Cells(Row, 11).Value = Percent_Change
Cells(Row, 11).NumberFormat = "0.00%"
End If
' Calculate and Add Total Volume
Volume = Volume + Cells(i, 7).Value
Cells(Row, 12).Value = Volume
' Update and Add one to the summary table row
Row = Row + 1
' reset the Open Price
Opening_Price = Cells(i + 1, 3)
' reset the Volumn Total
Volume = 0
'if cells are the same ticker
Else
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Volume = Volume + Cells(i, 7).Value

End If Next i 'Determine the Last Row of Yearly Change per WS YearlyLastRow = ws.Cells(Rows.Count, 10).End(xlUp).Row ' conditional formatting that will highlight positive change in green and negative change in red For j = 2 To YearlyLastRow If (Cells(j, 10).Value >= 0) Then Cells(j, 10).Interior.ColorIndex = 4 ElseIf Cells(j, 10).Value < 0 Then Cells(j, 10).Interior.ColorIndex = 3 End If Next j 'Your solution will also be able to return the stock with the "Greatest % increaseâ€ī, _ '_"Greatest % decreaseâ€🏿 and "Greatest total volumeâ€🗈. ' Set cell names for Greatest % increase‮, Greatest % decrease and Greatest total volume Cells(2, 15).Value = "Greatest % Increase" Cells(3, 15).Value = "Greatest % Decrease" Cells(4, 15).Value = "Greatest Total Volume" Cells(1, 16).Value = "Ticker" Cells(1, 17).Value = "Stock Value" Loop trough tickers to find the greatest increase, descrease, and volume, and associated tickers ' Reference of coding method: https://docs.microsoft.com/en-us/office/vba/api/Excel.WorksheetFunction For k = 2 To YearlyLastRow

If Cells(k, 11).Value = Application.WorksheetFunction.Max(ws.Range("K2:K" & YearlyLastRow)) Then

Cells(2, 16).Value = Cells(k, 9).Value

Cells(2, 17).Value = Cells(k, 11).Value

Cells(2, 17).NumberFormat = "0.00%"

Elself Cells(k, 11).Value = Application.WorksheetFunction.Min(ws.Range("K2:K" & YearlyLastRow)) Then

Cells(3, 16).Value = Cells(k, 9).Value

Cells(3, 17).Value = Cells(k, 11).Value

Cells(3, 17).NumberFormat = "0.00%"

ElseIf Cells(k, 12).Value = Application.WorksheetFunction.Max(ws.Range("L2:L" & YearlyLastRow)) Then

Cells(4, 16).Value = Cells(k, 9).Value

Cells(4, 17).Value = Cells(k, 12).Value

End If

Next k

Next ws

End Sub

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