

VBA HOMEWORK: THE VBA OF WALL STREET

EXCEL SCREENSHOTS BY YEAR:

2016 (FIRST 30 Rows):

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Yearly Chang	Percentage C	Total Volume Stock			Ticker	Value
A	20160101	41.81	41.81	41.81	41.81	0		AA	3.75	8.97%	528,576,200		Greatest % Decrease	SD	11675.00%
A	20160104	41.06	41.19	40.34	40.69	3287300		AA	-1.53	-5.17%	5,208,239,000		Greatest % Increase	DYN.W	-91.49%
A	20160105	40.73	40.95	40.34	40.55	2587200		AAC	-11.82	-62.01%	57,179,800		Greatest Total Volume	A	528,576,200
A	20160106	40.24	40.99	40.05	40.73	2103600		AAN	9.6	42.88%	184,809,000				
A	20160107	40.14	40.15	38.81	39	3504300		AAP	18.61	12.36%	262,665,300				
A	20160108	39.22	39.71	38.47	38.59	3736700		AAT	4.73	12.33%	49,026,400				
A	20160111	38.71	38.9	37.41	37.94	2818600		AAV	1.67	32.87%	27,358,200				
A	20160112	38.43	38.58	37.65	38.19	1989300		AB	-0.4	-1.68%	64,736,300				
A	20160113	38.35	38.47	36.72	36.86	4206600		ABB	3.34	18.84%	503,779,400				
A	20160114	36.94	37.88	36.55	37.61	2893300		ABBV	3.38	5.71%	2,034,231,800				
A	20160115	36.67	37.56	36.55	37.11	2994300		ABC	-25.52	-24.61%	647,239,900				
A	20160118	37.11	37.11	37.11	37.11	0		ABEV	0.45	10.09%	4,199,335,100				
A	20160119	37.64	37.92	36.79	37.2	2506500		ABG	-5.74	-8.51%	89,828,200				
A	20160120	36.68	37.61	36.13	37.26	2469000		ABM	12.37	43.45%	79,787,400				
A	20160121	37.35	37.83	36.81	37.23	2298300		ABR	0.31	4.34%	27,556,100				
A	20160122	37.91	38.18	37.58	37.98	1834400		ABR-A	0.57	2.33%	792,500				
A	20160125	37.4	38.03	37.4	37.61	1831200		ABR-B	2.02	8.95%	795,300				
A	20160126	37.89	37.96	37.36	37.51	1755000		ABR-C	0.18	0.72%	521,300				
A	20160127	37.39	37.92	36.81	37.05	1479400		ABRN	0.7	2.85%	1,759,800				
A	20160128	37.27	37.27	36.01	36.11	3479400		ABT	-6.5	-14.47%	2,298,099,600				
A	20160129	36.44	37.69	36.31	37.65	2959800		ABX	8.6	116.53%	4,996,990,800				
A	20160201	37.37	37.95	37	37.69	2666500		AC	2.35	7.70%	6,530,000				
A	20160202	37.18	37.55	36.95	37.07	1742300		ACC	8.43	20.39%	258,457,600				
A	20160203	37.27	37.36	36.29	37.19	2128400		ACCO	5.92	83.03%	163,653,100				
A	20160204	37.15	37.79	36.97	37.42	2833400		ACH	1.97	23.91%	11,563,400				
A	20160205	37.26	37.31	35.83	36.04	4424600		ACM	6.33	21.08%	296,759,000				
A	20160208	35.61	35.78	34.39	34.8	3888600		ACN	12.63	12.09%	650,155,300				
A	20160209	34.21	35.77	34.15	35.37	3464400		ACP	2.08	18.33%	21,179,200				
A	20160210	35.63	36.73	35.53	35.85	3169900		ACRE	2.29	20.02%	35,062,000				

FIGURE 1: 2016 WALL STREET DATA AND ANALYSIS

2015 (FIRST 30 Rows):

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Yearly Change	Percentage Change	Total Volume Stock				Ticker	Value
A	20150101	40.94	40.94	40.94	40.94	0		A	0.87	2.13%	645,319,200					
A	20150102	41.18	41.31	40.37	40.56	1530700		AA	-17.76	-37.49%	6,449,104,200			Greatest % Decrease	ARR	491.30%
A	20150105	40.32	40.46	39.7	39.8	2042200		AA-B	-17.14	-33.97%	40,441,700			Greatest % Increase	KML.W	-98.59%
A	20150106	39.81	40.02	39.02	39.18	2084500		AAC	-11.86	-38.36%	78,122,300			Greatest Total Volume	A	645,319,200
A	20150107	39.52	39.81	39.29	39.7	3359600		AAN	-8.18	-26.76%	179,606,700					
A	20150108	40.24	40.98	40.18	40.89	2116300		AAP	-8.77	-5.51%	266,930,500					
A	20150109	41	41	40.29	40.59	1644900		AAT	-1.46	-3.67%	48,158,100					
A	20150112	40.61	40.72	39.95	40.11	2771100		AAV	0.29	6.05%	30,229,400					
A	20150113	40.47	40.7	39.33	39.55	2013400		AB	-1.98	-7.67%	71,403,800					
A	20150114	39.03	39.1	38.21	39.06	5134000		ABB	-3.42	-16.17%	532,805,500					
A	20150115	39.33	39.41	37.99	38.01	2630200		ABBV	-6.2	-9.47%	2,643,021,600					
A	20150116	37.86	38.46	37.76	38.25	3003900		ABC	13.55	15.03%	516,218,400					
A	20150119	38.25	38.25	38.25	38.25	0		ABEV	-1.76	-28.30%	3,915,345,800					
A	20150120	38.43	38.66	37.76	37.93	5033600		ABG	-8.48	-11.17%	82,930,400					
A	20150121	37.75	38.41	37.68	38.16	2721600		ABM	-0.18	-0.63%	72,539,400					
A	20150122	38.51	39.86	38.12	39.65	4856500		ABR	0.38	5.61%	37,916,900					
A	20150123	39.6	39.6	38.76	38.81	1519200		ABR-A	-0.49	-1.96%	1,243,100					
A	20150126	38.79	39.17	38.47	39.15	1511200		ABR-B	-2.14	-8.66%	1,022,000					
A	20150127	38.7	39.25	38.58	38.75	1703500		ABR-C	-0.12	-0.47%	634,000					
A	20150128	39.01	39.05	37.96	38	2033500		ABRN	0.1	0.41%	2,109,900					
A	20150129	38	38.47	37.69	38.46	2329900		ABT	-0.11	-0.24%	1,469,310,700					
A	20150130	38.01	38.32	37.71	37.77	3054300		ABX	-3.37	-31.35%	4,289,215,100					
A	20150202	37.9	38.76	37.71	38.69	2508400		AC	1	3.39%	437,700					
A	20150203	39.04	39.63	38.92	39.62	2950300		ACC	-0.02	-0.05%	228,980,000					
A	20150204	39.33	39.46	38.82	39.11	2567400		ACCO	-1.88	-20.87%	167,330,800					
A	20150205	39.22	39.82	39.22	39.53	1826300		ACH	-3.28	-28.47%	35,801,000					
A	20150206	39.54	39.81	39.23	39.34	2697200		ACM	-0.34	-1.12%	362,299,600					
A	20150209	39.23	39.43	38.95	39.04	3586100		ACN	15.19	17.01%	625,655,000					
A	20150210	39.31	39.76	38.78	39.67	1408700		ACP	-3.76	-24.88%	14,348,400					

FIGURE 2: 2015 WALL STREET DATA AND ANALYSIS

2014 (FIRST 30 Rows):

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Yearly Change	Percentage Change	Total Volume Stock			Ticker	Value
A	20140101	57.19	57.19	57.19	57.19	0		A	-16.25	-28.41%	572,978,100				
A	20140102	57.1	57.1	56.15	56.21	1916100		AA	15.48	48.54%	5,161,412,000			Greatest % Decrease	DM 5581.16%
A	20140103	56.39	57.35	56.26	56.92	1866600		AA-B	1.34	2.73%	21,618,200			Greatest % Increase	CBO -95.73%
A	20140106	57.4	57.7	56.56	56.64	1777400		AAC	10.92	54.60%	9,789,700			Greatest Total Volume	A 572,978,100
A	20140107	56.95	57.63	56.93	57.45	1463200		AAN	1.17	3.98%	237,929,300				
A	20140108	57.33	58.54	57.17	58.39	2659400		AAP	48.6	43.91%	200,376,400				
A	20140109	58.4	58.68	57.87	58.41	1757600		AAT	8.38	26.66%	40,207,800				
A	20140110	58.51	59.01	58.14	58.93	1623300		AAV	0.45	10.37%	86,658,700				
A	20140113	58.77	59.1	58.6	58.93	2946700		AB	4.49	21.04%	83,051,600				
A	20140114	59.16	59.95	59.02	59.88	2562200		ABB	-5.41	-20.37%	466,820,000				
A	20140115	59.82	60.37	59.59	60.34	2335100		ABBV	12.63	23.92%	2,303,237,600				
A	20140116	60.24	60.5	60.04	60.5	1835900		ABC	19.85	28.23%	428,969,000				
A	20140117	60.83	60.83	60.33	60.71	1699500		ABEV	-1.34	-15.37%	3,208,014,300				
A	20140120	60.71	60.71	60.71	60.71	0		ABG	22.18	41.27%	81,065,600				
A	20140121	60.69	60.88	59.86	60.85	3008400		ABM	0.06	0.21%	52,403,000				
A	20140122	60.82	61.22	60.71	60.93	2769300		ABR	0.11	1.65%	28,348,400				
A	20140123	60.48	60.51	59.4	59.47	3063500		ABR-A	0.77	3.18%	1,798,500				
A	20140124	59.46	59.46	57.71	57.87	2656300		ABR-B	2.09	9.24%	1,722,000				
A	20140127	57.9	58.37	56.98	58.3	4669000		ABR-C	0.94	3.86%	1,758,200				
A	20140128	58.5	58.88	57.91	58.1	2536200		ABRN	0.49	2.04%	3,451,100				
A	20140129	57.67	58.22	57.41	57.65	2163000		ABT	6.69	17.45%	1,516,024,700				
A	20140130	58.42	60.11	58.42	59.51	3743100		ABX	-6.88	-39.02%	3,085,372,400				
A	20140131	58.61	59.15	58.05	58.15	3529000		ACC	9.15	28.41%	180,543,400				
A	20140203	58.15	58.48	56.08	56.15	2929200		ACCO	2.29	34.08%	223,248,000				
A	20140204	56.32	57.88	56.09	57.81	2911800		ACH	2.82	32.41%	34,117,500				
A	20140205	57.58	57.7	56.96	57.43	2283800		ACM	0.94	3.19%	303,393,900				
A	20140206	57.51	58.35	57.46	58.29	1609400		ACN	7.09	8.62%	705,479,100				
A	20140207	58.46	59.47	58.13	59.42	1975200		ACP	-2.47	-14.05%	14,206,700				
A	20140210	59.27	59.44	58.29	59.01	1760400		ACRE	-1.62	-12.37%	44,197,000				

FIGURE 3: 2014 WALL STREET DATA AND ANALYSIS

PROCESSING TIME:

On my computer the processing time was around 1.5 minutes on total for all the **Multiple_year_stock_data.xlsx** file.

CODING:

The majority of the code is commented – the main components and ideas behind it. I went a little bit further in what concerns sorting and assign the correct formatting numbers.

Please see below the entire code:

```
Sub Homework02():
    For Each ws In Worksheets

        'Selecting & Sort Cells by Header First Column – just to make sure all data
        is correctly sorted
        ws.Range("A1", ws.Range("A1").End(xlDown).End(xlToRight)).Sort
        Key1:=ws.Range("A1"), Order1:=xlAscending, Key2:=ws.Range("B1"), Order2:=xlAscending,
        Header:=xlYes

        'Header on the table
        ws.Cells(1,9).Value = "Ticker"
        ws.Cells(1,10).Value = "Yearly Change"
        ws.Cells(1,11).Value = "Percentage Change"
        ws.Cells(1,12).Value = "Total Volume Stock"

        Dim TVS as Double 'define Total Volume Stock Variable
        Dim Ybegin as Double 'define Year Beginning Variable
        Dim Yend as Double 'define Year End Variable
        Dim tableRow as integer 'define tablerow to iterate summary table
```

```
Dim yearChange as Double 'Variable to calculate difference between YearB and
Year end
'Defining Ticker and Value of the Greatest Increase
Dim bigger as Double
Dim bigger_ticket as String
'Defining Ticker and Value of the Greatest Decrease
Dim lower as Double
Dim lower_ticket as String
'Defining Ticker and Value of Higher Volume
Dim biggest as Double
Dim biggest_ticket as String

'To create Summary Table: row count
tableRow = 2

'Determine the last row
lastRow = ws.Cells(Rows.Count, 1).End(xlUp).Row

'Define the first Year Begin
Ybegin = ws.Cells(2,3).Value
TVS = ws.Cells(2,7).Value

'Cycle across all data
For i = 2 to lastRow:
    'Check either we are under the same ticker or not
    If ws.Cells(i+1,1).Value <> ws.Cells(i,1).Value Then

        'Defining Year End Variable and calculate last TVS
        Yend = ws.Cells(i,6).Value
        TVS = TVS+ws.Cells(i,7)

        'Print all Results in the table and calculate Year Change and % of
Change
        yearChange = Yend - Ybegin
        ws.Cells(tableRow,10).Value = yearChange

        'Format Color based on Year Change Value
        If yearChange >=0 Then
            ws.Cells(tableRow,10).Interior.ColorIndex = 4
        Else
            ws.Cells(tableRow,10).Interior.ColorIndex = 3
        End If

        'Calculate Year Change % and adjust in case Ybegin = 0
        If Ybegin = 0 Then
            ws.Cells(tableRow,11).Value= 0
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        Else
            ws.Cells(tableRow,11).Value= yearChange/Ybegin
            ws.Cells(tableRow,11).NumberFormat = "0.00%"
        End If

        'Formating Variables
        ws.Cells(tableRow,12).Value = TVS
        ws.Cells(tableRow,12).NumberFormat = "#,##0"
        ws.Cells(tableRow,9).Value = ws.Cells(i,1).Value

        'Reset all Variables
        TVS = 0
        Ybegin = ws.Cells(i+1,3).Value
        'Increment 1 Row
        tableRow = tableRow+1

    Else
        'Continue calculating TVS
        TVS = TVS + ws.Cells(i,7).Value
    End If

Next i

'Challenge - create the second small table:

'Determine the last row of summary table
lastRow2 = ws.Cells(Rows.Count, 9).End(xlUp).Row

'Define Names of Columns & Lines
ws.Cells(2,15).Value = "Greatest % Decrease"
ws.Cells(3,15).Value = "Greatest % Increase"
ws.Cells(4,15).Value = "Greatest Total Volume"
ws.Cells(1,16).Value = "Ticker"
ws.Cells(1,17).Value = "Value"

'Define first Variables & Tickets
bigger = ws.Cells(2,11).Value
bigger_ticket = ws.Cells(2,9).Value
lower = ws.Cells(2,11).Value
lower_ticket = ws.Cells(2,9).Value
biggest = ws.Cells(2,12).Value
biggest_ticket = ws.Cells(2,9).Value

'Cycle to define the Greatest Increase, Decrease and Higher Volume
For j = 3 to lastRow2:
    if ws.Cells(j,11).Value>bigger Then
        bigger = ws.Cells(j,11).Value
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```
        bigger_ticket = ws.Cells(j,9).Value
    End If
    if ws.Cells(j,11).Value<lower Then
        lower = ws.Cells(j,11).Value
        lower_ticket = ws.Cells(j,9).Value
    End If
    if ws.Cells(j,11).Value>biggest Then
        biggest = ws.Cells(j,11).Value
        biggest_ticket = ws.Cells(j,9).Value
    End If
Next j

'Defining Challenge Table and Formatting
ws.Cells(2,16).Value = bigger_ticket
ws.Cells(3,16).Value = lower_ticket
ws.Cells(4,16).Value = biggest_ticket
ws.Cells(2,17).Value = bigger
ws.Cells(2,17).NumberFormat = "0.00%"
ws.Cells(3,17).Value = lower
ws.Cells(3,17).NumberFormat = "0.00%"
ws.Cells(4,17).Value = biggest
ws.Cells(4,17).NumberFormat = "#,##0"

Next ws
End Sub
```

ALL SUPPORT FILES WILL BE ATTACHED TO THIS REPORT