Assignment 3

CLASS: OM 424-01-22413

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**Overview of the assignment:**

This assignment aims to expand the business analytics system developed in Assignment 1 and Assignment 2. The main objective of assignment 3 is to create a forecast automatically of the 3 variables, demand, production cost, and holding cost. With this, there are two time series forecasting methods for each variable: one with a trend with four-quarter seasonality and another with a trend of 12-month seasonality. The goal is to select the best forecasting method for each variable based on the mean squared forecast error and then the future values will be calculated and inserted in the data sheet along with a button added in the main sheet for “generate forecasts.”

**How the assignment was implemented:**

1. **Understanding and preparation:**

I reviewed the assignment that was provided and identified the steps I needed to take to start this assignment. I changed the date format to month-year and changed the heading title for all the columns. Then I went through the assignment description and took notes on the steps I would need to follow. I saved the new file PPP 3 as an XLSM file.

**First step:**

First, I had to create a new sheet and called it AUX\_Demand. Then I had to record the first macro of adding and copying the columns of date and demand from the data sheet and pasting it to the AUX\_Demand sheet. Then, to start off with the time series for trend with four quarter seasonality. I started by naming the 5 new columns next to demand. The first column is named “Quarter”, the second “Time”, and the third is “Q1”, Q2, and Q3. We only used 3 quarters because of the dummy variable rule which is K-1 (4-1) so 3 quarters to be used. Then proceeded to start with the first cell for the quarter column.

1. Range("C2").**Select**
2. ActiveCell.FormulaR1C1 = "=ROUNDUP(MONTH(RC[-2])/3,0)"

This was the first formula we used =ROUNDUP(MONTH(A2)/3,0). This formula is used to determine which quarter of the year the specific date belongs to which is represented by (1, 2, or 3) such as rounding up to the number to the nearest whole number, A2 is the date Jan-20 dividing the month by 3 quarters. Then we can easily drag it down so Excel can automatically apply the formula to each month in the dataset. Next, for the time column, we needed to label 1,2 3 by filling the cell in sequence and dragging it down.

1. ActiveCell.FormulaR1C1 = "Time"
2. Range("D2").**Select**
3. ActiveCell.FormulaR1C1 = "1"
4. Range("D3").**Select**
5. ActiveCell.FormulaR1C1 = "2"
6. Range("D2:D3").**Select**
7. Selection.AutoFill Destination:=Range("D2:D52")
8. Range("D2:D52").**Select**

Then, for the next column Q1 we used the formula =IF(C2=1,1,0). We used the ‘IF’ function to check the conditions on whether it is true or false. Here, the formula checks the condition C2=1, and if it is then it is true=1, and if it is false=1. Then, we can drag it down so it applies to each cell. The same was done for Q2 and Q3 with just the change to quarter 2/3. This was the first macro called Aux\_Demand\_Macro.

1. ActiveCell.FormulaR1C1 = "Q1"
2. Range("F1").**Select**
3. ActiveCell.FormulaR1C1 = "Q2"
4. Range("G1").**Select**
5. ActiveCell.FormulaR1C1 = "Q3"
6. Range("E2").**Select**
7. ActiveCell.FormulaR1C1 = "=IF(RC[-2]=1,1,0)"
8. Range("E2").**Select**
9. Selection.AutoFill Destination:=Range("E2:E52")

Next, we needed to the same steps for production and holding costs. The second macro I did was for the production macro. Copy pasting the column of dates and production cost from the data sheet to create a new sheet named “AUX\_Production” and paste it into this sheet.

1. **Sub** AUX\_Productionmacro()
2. '
3. ' AUX\_Productionmacro Macro
4. '
6. '
7. Sheets("Data").**Select**
8. Range("A1:A52").**Select**
9. ActiveWindow.SmallScroll Down:=-9
10. Range("A1:A52,C1:C52").**Select**
11. Range("C1").Activate
12. Selection.Copy
13. Sheets("AUX\_Production").**Select**
14. Range("A1").**Select**
15. ActiveSheet.Paste

Just like the AUX\_Demand sheet. I used the same formula for the columns Quarter, time, Q1, Q2, and Q3.

Next was for the holding cost, the third macro named AUX\_Holdingmacro. I created a new sheet again and called it AUX\_Holding and did the same process I did for the demand and production sheet. This was the last sheet to be created.

**Second step:**

The second main step was to create the regression analysis for each of the quarterly variables. To do this, I recorded the macro of me going to the data analysis tab, clicking regression, and for the quarterly demand. The Y range was the demand column, and the X range was the columns Time, Q1,2, and Q3. I clicked on the box for residuals and generated the regression analysis.

1. **Sub** quartregressiondemand()
2. '
3. ' regressiondemand Macro
4. '
6. '
7. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
8. ActiveSheet.Range("$D$1:$G$52"), **False**, **True**, , ActiveSheet.Range("$Z$1") \_
9. , **True**, **False**, **False**, **False**, , **False**
10. Range("AC7").**Select**
11. **End** **Sub**

I did the same for the production and holding costs but just changed the Y range.

**Third step:**

The third main step after was to look at the summary output of the regression analysis generated and find the mean squared forecasted error (MSFE) for each of the variables. To calculate the MSFE I looked at the Residual SS and divided that by the observation and I got the following MSFE for each of the variables.

Quarterly demand MSFE: 358.38/51=7.02

Quarterly production MSFE: 2.48/51= 0.048

Quarterly holding MSFE: 2.485/51=0.048

**Fourth step:**

Next, we had to forecast for the 12-month seasonality. To do this, I copied the demand column onto the AUX demand sheet renamed it monthly demand, and proceeded to create columns for Time. I did the same as the quarterly time column and dragged it down by fill sequence. For the monthly using the dummy variable for months this time, I used Jan-Nov. I named the months for each of the column.

1. Range("K1").**Select**
2. ActiveCell.FormulaR1C1 = "Jan"
3. Range("L1").**Select**
4. ActiveCell.FormulaR1C1 = "Feb"
5. Range("M1").**Select**
6. ActiveCell.FormulaR1C1 = "Mar"
7. Range("N1").**Select**
8. ActiveCell.FormulaR1C1 = "Apr"
9. Range("O1").**Select**
10. ActiveCell.FormulaR1C1 = "May"
11. Range("P1").**Select**
12. ActiveCell.FormulaR1C1 = "Jun"
13. Range("Q1").**Select**
14. ActiveCell.FormulaR1C1 = "Jul"
15. Range("R1").**Select**
16. ActiveCell.FormulaR1C1 = "Aug"
17. Range("S1").**Select**
18. ActiveCell.FormulaR1C1 = "Sep"
19. Range("T1").**Select**
20. ActiveCell.FormulaR1C1 = "Oct"
21. Range("U2").**Select**

Then I had to put in the formula in each month’s cell using the IF function. For example, for January cell 1 the formula would be =IF(MONTH(A2)=1,1,0) which tells us the condition that if cell A2=Jan then 1=true if not 0=false. A2 was January 20 so it gave us 1 as true. I dragged it now so the formula can be used for each of the months.

1. Range("K2").**Select**
2. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-10])=1,1,0)"

I carried on and did the same for production and holding costs with the months and formula by dragging down each month.

**Fifth step:**

Then, I had to create the regression analysis for the monthly variables. For demand monthly, I clicked on the data tab, data analysis, and chose regression. For the interest, I put the demand column as before but for the X axis, I selected the new monthly column from the Time column to the November column. I selected the residual label and generated the monthly regression analysis. I created the regression analysis for monthly production and holding cost using the same process.

1. **Sub** monthregdemand()
2. '
3. ' monthregdemand Macro
4. '
6. '
7. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
8. ActiveSheet.Range("$I$1:$T$52"), **False**, **True**, , ActiveSheet.Range("$AJ$1") \_
9. , **True**, **False**, **False**, **False**, , **False**
10. Range("AH32").**Select**
11. Sheets("AUX\_Production").**Select**
12. **End** **Sub**

**Sixth step:**

Then, I needed to calculate the mean squared forecasted error by using the same formula as I did before. To calculate the MSFE I looked at the Residual SS and divided that by the observation and I got the following MSFE for each of the variables.

Monthly Demand MSFE: 317/51 = 6.23

Monthly production MSFE: 1.77/51= 0.03

Monthly holding MSFE: 2.19/51=0.042

**7th step:**

|  |  |  |
| --- | --- | --- |
|  | **Monthly** | **Quarterly** |
| **Demand** | 6.23 | 7.02 |
| **Production** | 0.03 | 0.048 |
| **Holding** | 0.042 | 0.048 |

Then, I needed to compare the two-time series MSFE. The lower the MSFE value, the better the forecast model is considered. From the table above, we can see that the monthly time series has a lower MSFE than the quarterly time series. So, I ended up choosing the monthly quarterly series as the best forecast model.

**8th step:**

Now using the monthly regression analysis, I needed to calculate the future values for each of the variables. I named this subroutine calcdemand, calcproduction and calcholding. I did this by using the regression equation. I needed to forecast the months of April 24, May 24, and Jun 24.

For demand for April 24th would be:

= intercept +(time coefficient\*time)+(April coefficient\*1)

= 9.29+(0.50\*52)+(1.13\*1)

=36.54

1. **Sub** calcdemand()
2. '
3. ' calcdemand Macro
4. '
6. '
7. Range("H53").**Select**
8. ActiveCell.FormulaR1C1 = "=R[-36]C[29]+(R[-35]C[19]\*52)+(R[-31]C[29]\*1)"
9. Range("H54").**Select**
10. ActiveCell.FormulaR1C1 = "=R[-37]C[29]+(R[-36]C[29]\*RC[1])+R[-31]C[29]\*1"
11. Range("H55").**Select**
12. ActiveWindow.SmallScroll ToRight:=-4
13. Range("H55").**Select**
14. ActiveCell.FormulaR1C1 = ""
15. Range("H55").**Select**
16. ActiveCell.FormulaR1C1 = "=R[-38]C[29]+(R[-37]C[29]\*RC[1])+(R[-31]C[29]\*1)"
17. Range("H56").**Select**
18. ActiveWindow.SmallScroll ToRight:=-6
19. **End** **Sub**

I did the same for all the months and for production cost and holding cost with their regression summary values and I got the forecasted values as:

Date Demand Production Holding

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | Apr-24 | 36.54 | 5.39 | 4.51 | | May-24 | 38.59 | 5.24 | 4.55 | | Jun-24 | 36.61 | 5.25 | 4.63 | |

1. **Sub** forecast3months()
2. **Dim** wsData **As** Worksheet
4. ' Set reference to the "Data" sheet
5. **Set** wsData = ThisWorkbook.Sheets("Data")
7. ' Input forecast dates into column A
8. wsData.Range("A53").Value = "4/24/2024"
9. wsData.Range("A54").Value = "5/24/2024"
10. wsData.Range("A55").Value = "6/24/2024"
12. ' Input forecasted values into columns B, C, and D
13. wsData.Range("B53").Value = 36.54
14. wsData.Range("B54").Value = 38.59
15. wsData.Range("B55").Value = 36.61
17. wsData.Range("C53").Value = 5.39
18. wsData.Range("C54").Value = 5.24
19. wsData.Range("C55").Value = 5.25
21. wsData.Range("D53").Value = 4.51
22. wsData.Range("D54").Value = 4.55
23. wsData.Range("D55").Value = 4.63
24. **End** **Sub**

**9th step:**

Then I created a button on the main page and assigned the above subroutine macro to the button to generate forecasts.

**A short tutorial on how to use the .xlsm file.**

**A screenshot of a blue screen

Description automatically generated**

**VBA: Appendix**

1. **Sub** AUX\_Demand\_Macro()
2. '
3. ' AUX\_Demand\_Macro Macro
4. '
6. '
7. Sheets("Data").**Select**
8. Range("A1:B52").**Select**
9. Selection.Copy
10. Sheets("AUX\_Demand").**Select**
11. Range("A1").**Select**
12. ActiveSheet.Paste
13. Range("C1").**Select**
14. Application.CutCopyMode = **False**
15. ActiveCell.FormulaR1C1 = "Quarter"
16. Range("C2").**Select**
17. ActiveCell.FormulaR1C1 = "=ROUNDUP(MONTH(RC[-2])/3,0)"
18. Range("C2").**Select**
19. Selection.AutoFill Destination:=Range("C2:C52")
20. Range("C2:C52").**Select**
21. Range("D1").**Select**
22. ActiveCell.FormulaR1C1 = "Time"
23. Range("D2").**Select**
24. ActiveCell.FormulaR1C1 = "1"
25. Range("D3").**Select**
26. ActiveCell.FormulaR1C1 = "2"
27. Range("D2:D3").**Select**
28. Selection.AutoFill Destination:=Range("D2:D52")
29. Range("D2:D52").**Select**
30. Range("E1").**Select**
31. ActiveCell.FormulaR1C1 = "Q1"
32. Range("F1").**Select**
33. ActiveCell.FormulaR1C1 = "Q2"
34. Range("G1").**Select**
35. ActiveCell.FormulaR1C1 = "Q3"
36. Range("E2").**Select**
37. ActiveCell.FormulaR1C1 = "=IF(RC[-2]=1,1,0)"
38. Range("E2").**Select**
39. Selection.AutoFill Destination:=Range("E2:E52")
40. Range("E2:E52").**Select**
41. Range("F2").**Select**
42. ActiveCell.FormulaR1C1 = "=IF(RC[-3]=2,1,0)"
43. Range("F2").**Select**
44. Selection.AutoFill Destination:=Range("F2:F52")
45. Range("F2:F52").**Select**
46. Range("G2").**Select**
47. ActiveCell.FormulaR1C1 = "=IF(RC[-4]=3,1,0)"
48. Range("G2").**Select**
49. Selection.AutoFill Destination:=Range("G2:G52")
50. Range("G2:G52").**Select**
51. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
52. ActiveSheet.Range("$D$1:$G$52"), **False**, **True**, , ActiveSheet.Range("$Z$1") \_
53. , **True**, **False**, **False**, **False**, , **False**
54. **End** **Sub**
56. **Sub** AUX\_Productionmacro()
57. '
58. ' AUX\_Productionmacro Macro
59. '
61. '
62. Sheets("Data").**Select**
63. Range("A1:A52").**Select**
64. ActiveWindow.SmallScroll Down:=-9
65. Range("A1:A52,C1:C52").**Select**
66. Range("C1").Activate
67. Selection.Copy
68. Sheets("AUX\_Production").**Select**
69. Range("A1").**Select**
70. ActiveSheet.Paste
71. Columns("B:B").ColumnWidth = 13.5
72. Range("C1").**Select**
73. Application.CutCopyMode = **False**
74. ActiveCell.FormulaR1C1 = "Quarter"
75. Range("D1").**Select**
76. ActiveCell.FormulaR1C1 = "Time"
77. Range("E1").**Select**
78. ActiveCell.FormulaR1C1 = "Q1"
79. Range("F1").**Select**
80. ActiveCell.FormulaR1C1 = "Q2"
81. Range("G1").**Select**
82. ActiveCell.FormulaR1C1 = "Q3"
83. Range("C2").**Select**
84. ActiveCell.FormulaR1C1 = "=ROUNDUP(MONTH(RC[-2])/3,0)"
85. Range("C2").**Select**
86. Selection.AutoFill Destination:=Range("C2:C52"), Type:=xlFillDefault
87. Range("C2:C52").**Select**
88. ActiveWindow.SmallScroll Down:=-9
89. Range("D2").**Select**
90. ActiveCell.FormulaR1C1 = "1"
91. Range("D3").**Select**
92. ActiveCell.FormulaR1C1 = "2"
93. Range("D2:D3").**Select**
94. Selection.AutoFill Destination:=Range("D2:D52"), Type:=xlFillDefault
95. Range("D2:D52").**Select**
96. ActiveWindow.SmallScroll Down:=-11
97. Range("E2").**Select**
98. ActiveCell.FormulaR1C1 = "=IF(RC[-2]=1,1,0)"
99. Range("E2").**Select**
100. Selection.AutoFill Destination:=Range("E2:E52"), Type:=xlFillDefault
101. Range("E2:E52").**Select**
102. ActiveWindow.SmallScroll Down:=-9
103. Range("F2").**Select**
104. ActiveCell.FormulaR1C1 = "=IF(RC[-3]=2,1,0)"
105. Range("F2").**Select**
106. Selection.AutoFill Destination:=Range("F2:F52"), Type:=xlFillDefault
107. Range("F2:F52").**Select**
108. ActiveWindow.SmallScroll Down:=-9
109. Range("G2").**Select**
110. ActiveCell.FormulaR1C1 = "=IF(RC[-4]=3,1,0)"
111. Range("G2").**Select**
112. Selection.AutoFill Destination:=Range("G2:G52"), Type:=xlFillDefault
113. Range("G2:G52").**Select**
114. Range("H50").**Select**
115. **End** **Sub**
117. **Sub** AUX\_Holdingmacro()
118. '
119. ' AUX\_Holdingmacro Macro
120. '
122. '
123. Sheets("Data").**Select**
124. Range("A1:A52").**Select**
125. Selection.Copy
126. Range("A1:A52,D1:D52").**Select**
127. Range("D1").Activate
128. Application.CutCopyMode = **False**
129. Selection.Copy
130. Sheets("AUX\_Holding").**Select**
131. Range("A1").**Select**
132. ActiveSheet.Paste
133. Range("C1").**Select**
134. Application.CutCopyMode = **False**
135. ActiveCell.FormulaR1C1 = "Quarter"
136. Range("D1").**Select**
137. ActiveCell.FormulaR1C1 = "Time"
138. Range("E1").**Select**
139. ActiveCell.FormulaR1C1 = "Q1"
140. Range("F1").**Select**
141. ActiveCell.FormulaR1C1 = "Q2"
142. Range("G1").**Select**
143. ActiveCell.FormulaR1C1 = "Q3"
144. Range("C2").**Select**
145. ActiveCell.FormulaR1C1 = "=ROUNDUP(MONTH(RC[-2])/3,0)"
146. Range("C2").**Select**
147. Selection.AutoFill Destination:=Range("C2:C52"), Type:=xlFillDefault
148. Range("C2:C52").**Select**
149. ActiveWindow.SmallScroll Down:=-9
150. Range("D2").**Select**
151. ActiveCell.FormulaR1C1 = "1"
152. Range("D3").**Select**
153. ActiveCell.FormulaR1C1 = "2"
154. Range("D2:D3").**Select**
155. Selection.AutoFill Destination:=Range("D2:D52"), Type:=xlFillDefault
156. Range("D2:D52").**Select**
157. ActiveWindow.SmallScroll Down:=-9
158. Range("E2").**Select**
159. ActiveCell.FormulaR1C1 = "=IF(RC[-2]=1,1,0)"
160. Range("E2").**Select**
161. Selection.AutoFill Destination:=Range("E2:E52"), Type:=xlFillDefault
162. Range("E2:E52").**Select**
163. ActiveWindow.SmallScroll Down:=-12
164. Range("F2").**Select**
165. ActiveCell.FormulaR1C1 = "=IF(RC[-3]=2,1,0)"
166. Range("F2").**Select**
167. Selection.AutoFill Destination:=Range("F2:F52"), Type:=xlFillDefault
168. Range("F2:F52").**Select**
169. ActiveWindow.SmallScroll Down:=-12
170. Range("G2").**Select**
171. ActiveCell.FormulaR1C1 = "=IF(RC[-4]=3,1,0)"
172. Range("G2").**Select**
173. Selection.AutoFill Destination:=Range("G2:G52"), Type:=xlFillDefault
174. Range("G2:G52").**Select**
175. Range("J26").**Select**
176. **End** **Sub**
178. **Sub** AUXdemandmonthly()
179. '
180. ' AUXdemandmonthly Macro
181. '
183. '
184. Range("I1").**Select**
185. ActiveCell.FormulaR1C1 = "Time"
186. Range("J1").**Select**
187. ActiveCell.FormulaR1C1 = "Jan"
188. Range("K1").**Select**
189. ActiveCell.FormulaR1C1 = "Feb"
190. Range("L1").**Select**
191. ActiveCell.FormulaR1C1 = "Mar"
192. Range("M1").**Select**
193. ActiveCell.FormulaR1C1 = "Apr"
194. Range("N1").**Select**
195. ActiveCell.FormulaR1C1 = "May"
196. Range("O1").**Select**
197. ActiveCell.FormulaR1C1 = "Jun"
198. Range("P1").**Select**
199. ActiveCell.FormulaR1C1 = "Jul"
200. Range("Q1").**Select**
201. ActiveCell.FormulaR1C1 = "Aug"
202. Range("R1").**Select**
203. ActiveCell.FormulaR1C1 = "Sep"
204. Range("S1").**Select**
205. ActiveCell.FormulaR1C1 = "Oct"
206. Range("T1").**Select**
207. ActiveCell.FormulaR1C1 = "Nov"
208. Range("I2").**Select**
209. ActiveCell.FormulaR1C1 = "1"
210. Range("I3").**Select**
211. ActiveCell.FormulaR1C1 = "2"
212. Range("I2:I3").**Select**
213. Selection.AutoFill Destination:=Range("I2:I52"), Type:=xlFillDefault
214. Range("I2:I52").**Select**
215. ActiveWindow.SmallScroll Down:=-25
216. Range("J2").**Select**
217. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-9])=1,1,0)"
218. Range("J2").**Select**
219. Selection.AutoFill Destination:=Range("J2:J52"), Type:=xlFillDefault
220. Range("J2:J52").**Select**
221. ActiveWindow.SmallScroll Down:=-10
222. Range("K2").**Select**
223. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-10])=2,1,0)"
224. Range("K2").**Select**
225. Selection.AutoFill Destination:=Range("K2:K52"), Type:=xlFillDefault
226. Range("K2:K52").**Select**
227. ActiveWindow.SmallScroll Down:=-10
228. Range("L2").**Select**
229. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-11])=3,1,0)"
230. Range("L2").**Select**
231. Selection.AutoFill Destination:=Range("L2:L4"), Type:=xlFillDefault
232. Range("L2:L4").**Select**
233. Selection.AutoFill Destination:=Range("L2:L52"), Type:=xlFillDefault
234. Range("L2:L52").**Select**
235. ActiveWindow.SmallScroll Down:=-12
236. ActiveWindow.SmallScroll ToRight:=2
237. Range("L2").**Select**
238. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-11])=3,1,0)"
239. Range("M2").**Select**
240. ActiveSheet.Paste
241. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-12])=4,1,0)"
242. Range("M2").**Select**
243. Selection.AutoFill Destination:=Range("M2:M52"), Type:=xlFillDefault
244. Range("M2:M52").**Select**
245. ActiveWindow.SmallScroll Down:=-9
246. Range("N2").**Select**
247. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-13])=5,1,0)"
248. Range("N2").**Select**
249. Selection.AutoFill Destination:=Range("N2:N52"), Type:=xlFillDefault
250. Range("N2:N52").**Select**
251. ActiveWindow.SmallScroll Down:=-10
252. Range("O2").**Select**
253. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-14])=6,1,0)"
254. Range("P2").**Select**
255. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-15])=7,1,0)"
256. Range("Q2").**Select**
257. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-16])=8,1,0)"
258. Range("R2").**Select**
259. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-17])=9,1,0)"
260. Range("S2").**Select**
261. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-18])=10,1,0)"
262. Range("T2").**Select**
263. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-19])=11,1,0)"
264. Range("O2").**Select**
265. Selection.AutoFill Destination:=Range("O2:O52"), Type:=xlFillDefault
266. Range("O2:O52").**Select**
267. ActiveWindow.SmallScroll Down:=-16
268. Range("P2").**Select**
269. Selection.AutoFill Destination:=Range("P2:P52"), Type:=xlFillDefault
270. Range("P2:P52").**Select**
271. ActiveWindow.SmallScroll ToRight:=1
272. Range("R2").**Select**
273. Selection.AutoFill Destination:=Range("R2:R52"), Type:=xlFillDefault
274. Range("R2:R52").**Select**
275. ActiveWindow.SmallScroll Down:=-10
276. Range("Q2").**Select**
277. Selection.AutoFill Destination:=Range("Q2:Q52"), Type:=xlFillDefault
278. Range("Q2:Q52").**Select**
279. ActiveWindow.SmallScroll Down:=-12
280. Range("S2").**Select**
281. Selection.AutoFill Destination:=Range("S2:S52"), Type:=xlFillDefault
282. Range("S2:S52").**Select**
283. ActiveWindow.SmallScroll Down:=-10
284. ActiveWindow.SmallScroll ToRight:=10
285. Range("T2").**Select**
286. Selection.AutoFill Destination:=Range("T2:T52"), Type:=xlFillDefault
287. Range("T2:T52").**Select**
288. Range("V43").**Select**
289. ActiveWindow.SmallScroll ToRight:=-8
290. ActiveWorkbook.Save
291. ActiveWindow.Close
292. ActiveWindow.SmallScroll ToRight:=8
293. ActiveWindow.SmallScroll Down:=0
294. Range("W17").**Select**
295. **End** **Sub**
297. **Sub** auxmonthlyproduction()
298. '
299. ' auxmonthlyproduction Macro
300. '
302. '
303. Range("B1:B52").**Select**
304. Selection.Copy
305. ActiveWindow.SmallScroll Down:=0
306. Range("I1").**Select**
307. ActiveSheet.Paste
308. Range("J3").**Select**
309. Columns("I:I").ColumnWidth = 14.33
310. Range("J1").**Select**
311. Application.CutCopyMode = **False**
312. ActiveCell.FormulaR1C1 = "Time"
313. Range("K1").**Select**
314. ActiveCell.FormulaR1C1 = "Jan"
315. Range("L1").**Select**
316. ActiveCell.FormulaR1C1 = "Feb"
317. Range("M1").**Select**
318. ActiveCell.FormulaR1C1 = "Mar"
319. Range("N1").**Select**
320. ActiveCell.FormulaR1C1 = "Apr"
321. Range("O1").**Select**
322. ActiveCell.FormulaR1C1 = "May"
323. Range("P1").**Select**
324. ActiveCell.FormulaR1C1 = "Jun"
325. Range("Q1").**Select**
326. ActiveCell.FormulaR1C1 = "Jul"
327. Range("R1").**Select**
328. ActiveCell.FormulaR1C1 = "Aug"
329. Range("S1").**Select**
330. ActiveCell.FormulaR1C1 = "Sep"
331. Range("T1").**Select**
332. ActiveCell.FormulaR1C1 = "Oct"
333. Range("U2").**Select**
334. Selection.Cut Destination:=Range("U1")
335. Range("U1").**Select**
336. ActiveCell.FormulaR1C1 = "Nov"
337. Range("J2").**Select**
338. ActiveCell.FormulaR1C1 = "1"
339. Range("J3").**Select**
340. ActiveCell.FormulaR1C1 = "2"
341. Range("J2:J3").**Select**
342. Selection.AutoFill Destination:=Range("J2:J52"), Type:=xlFillDefault
343. Range("J2:J52").**Select**
344. ActiveWindow.SmallScroll Down:=-11
345. Range("K2").**Select**
346. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-10])=1,1,0)"
347. Range("K3").**Select**
348. ActiveWindow.SmallScroll Down:=0
349. Range("K2").**Select**
350. Selection.AutoFill Destination:=Range("K2:K52"), Type:=xlFillDefault
351. Range("K2:K52").**Select**
352. ActiveWindow.SmallScroll Down:=-10
353. Range("L2").**Select**
354. ActiveWindow.SmallScroll Down:=0
355. Range("L2").**Select**
356. ActiveCell.FormulaR1C1 = ""
357. Range("K2").**Select**
358. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-10])=1,1,0)"
359. Range("L2").**Select**
360. ActiveSheet.Paste
361. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-11])=2,1,0)"
362. Range("L2").**Select**
363. Selection.AutoFill Destination:=Range("L2:L52"), Type:=xlFillDefault
364. Range("L2:L52").**Select**
365. ActiveWindow.SmallScroll Down:=-11
366. Range("M2").**Select**
367. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-12])=3,1,0)"
368. Range("M2").**Select**
369. Selection.AutoFill Destination:=Range("M2:M52"), Type:=xlFillDefault
370. Range("M2:M52").**Select**
371. ActiveWindow.SmallScroll Down:=-10
372. Range("N2").**Select**
373. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-13])=4,1,0)"
374. Range("N2").**Select**
375. Selection.AutoFill Destination:=Range("N2:N52"), Type:=xlFillDefault
376. Range("N2:N52").**Select**
377. ActiveWindow.SmallScroll Down:=-10
378. Range("O2").**Select**
379. ActiveSheet.Paste
380. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-14])=5,1,0)"
381. Range("O2").**Select**
382. Selection.AutoFill Destination:=Range("O2:O52"), Type:=xlFillDefault
383. Range("O2:O52").**Select**
384. ActiveWindow.SmallScroll Down:=-11
385. Range("P2").**Select**
386. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-15])=6,1,0)"
387. Range("P2").**Select**
388. Selection.AutoFill Destination:=Range("P2:P53"), Type:=xlFillDefault
389. Range("P2:P53").**Select**
390. ActiveWindow.SmallScroll Down:=-10
391. Range("Q2").**Select**
392. ActiveSheet.Paste
393. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-16])=7,1,0)"
394. Range("Q2").**Select**
395. Selection.AutoFill Destination:=Range("Q2:Q52"), Type:=xlFillDefault
396. Range("Q2:Q52").**Select**
397. ActiveWindow.SmallScroll Down:=-11
398. Range("R2").**Select**
399. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-17])=8,1,0)"
400. Range("R3").**Select**
401. ActiveWindow.SmallScroll ToRight:=7
402. Range("R2").**Select**
403. Selection.AutoFill Destination:=Range("R2:R52"), Type:=xlFillDefault
404. Range("R2:R52").**Select**
405. ActiveWindow.SmallScroll Down:=-11
406. Range("S2").**Select**
407. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-18])=9,1,0)"
408. Range("T2").**Select**
409. ActiveSheet.Paste
410. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-19])=10,1,0)"
411. Range("U2").**Select**
412. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-20])=11,1,0)"
413. Range("S2").**Select**
414. Selection.AutoFill Destination:=Range("S2:S52"), Type:=xlFillDefault
415. Range("S2:S52").**Select**
416. ActiveWindow.SmallScroll Down:=-11
417. Range("T2").**Select**
418. Selection.AutoFill Destination:=Range("T2:T52"), Type:=xlFillDefault
419. Range("T2:T52").**Select**
420. ActiveWindow.SmallScroll Down:=-11
421. Range("U2").**Select**
422. Selection.AutoFill Destination:=Range("U2:U52"), Type:=xlFillDefault
423. Range("U2:U52").**Select**
424. Range("W38").**Select**
425. ActiveWindow.SmallScroll Down:=-13
426. **End** **Sub**
428. **Sub** Auxmonthlyholding()
429. '
430. ' Auxmonthlyholding Macro
431. '
433. '
434. Range("B1:B52").**Select**
435. Selection.Copy
436. ActiveWindow.SmallScroll Down:=0
437. Range("I1").**Select**
438. ActiveSheet.Paste
439. ActiveWindow.SmallScroll Down:=0
440. Range("J1").**Select**
441. Application.CutCopyMode = **False**
442. ActiveCell.FormulaR1C1 = "Time"
443. Range("K1").**Select**
444. ActiveCell.FormulaR1C1 = "Jan"
445. Range("L1").**Select**
446. ActiveCell.FormulaR1C1 = "Feb"
447. Range("M1").**Select**
448. ActiveCell.FormulaR1C1 = "Mar"
449. Range("N1").**Select**
450. ActiveCell.FormulaR1C1 = "Apr"
451. Range("O1").**Select**
452. ActiveCell.FormulaR1C1 = "May"
453. Range("P1").**Select**
454. ActiveCell.FormulaR1C1 = "Jun"
455. Range("Q1").**Select**
456. ActiveCell.FormulaR1C1 = "Jul"
457. Range("R1").**Select**
458. ActiveCell.FormulaR1C1 = "Aug"
459. Range("S1").**Select**
460. ActiveWindow.SmallScroll ToRight:=2
461. ActiveCell.FormulaR1C1 = "Sep"
462. Range("T1").**Select**
463. ActiveCell.FormulaR1C1 = "Oct"
464. Range("U1").**Select**
465. ActiveCell.FormulaR1C1 = "Nov"
466. Range("J2").**Select**
467. ActiveCell.FormulaR1C1 = "1"
468. Range("J3").**Select**
469. ActiveCell.FormulaR1C1 = "2"
470. Range("J2:J3").**Select**
471. Selection.AutoFill Destination:=Range("J2:J52"), Type:=xlFillDefault
472. Range("J2:J52").**Select**
473. ActiveWindow.SmallScroll Down:=-12
474. Range("K2").**Select**
475. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-10])=1,1,0)"
476. Range("K2").**Select**
477. Selection.AutoFill Destination:=Range("K2:K52"), Type:=xlFillDefault
478. Range("K2:K52").**Select**
479. ActiveWindow.SmallScroll Down:=-10
480. Range("L2:L12").**Select**
481. Range("L12").Activate
482. ActiveCell.FormulaR1C1 = ""
483. Range("L2").**Select**
484. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-11])=2,1,0)"
485. Range("L2").**Select**
486. Selection.AutoFill Destination:=Range("L2:L52"), Type:=xlFillDefault
487. Range("L2:L52").**Select**
488. ActiveWindow.SmallScroll Down:=-10
489. Range("M2").**Select**
490. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-12])=3,1,0)"
491. Range("M2").**Select**
492. Selection.AutoFill Destination:=Range("M2:M52"), Type:=xlFillDefault
493. Range("M2:M52").**Select**
494. ActiveWindow.SmallScroll Down:=-10
495. Range("N2").**Select**
496. ActiveSheet.Paste
497. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-13])=4,1,0)"
498. Range("N2").**Select**
499. Selection.AutoFill Destination:=Range("N2:N52"), Type:=xlFillDefault
500. Range("N2:N52").**Select**
501. ActiveWindow.SmallScroll Down:=-10
502. Range("O2").**Select**
503. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-14])=5,1,0)"
504. Range("O2").**Select**
505. Selection.AutoFill Destination:=Range("O2:O52"), Type:=xlFillDefault
506. Range("O2:O52").**Select**
507. ActiveWindow.SmallScroll Down:=-10
508. Range("P2").**Select**
509. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-15])=6,1,0)"
510. Range("P2").**Select**
511. Selection.AutoFill Destination:=Range("P2:P52"), Type:=xlFillDefault
512. Range("P2:P52").**Select**
513. ActiveWindow.SmallScroll ToRight:=1
514. Range("Q2").**Select**
515. ActiveSheet.Paste
516. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-16])=7,1,0)"
517. Range("Q2").**Select**
518. Selection.AutoFill Destination:=Range("Q2:Q51"), Type:=xlFillDefault
519. Range("Q2:Q51").**Select**
520. ActiveWindow.SmallScroll ToRight:=1
521. Range("R2").**Select**
522. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-17])=8,1,0)"
523. Range("R2").**Select**
524. Selection.AutoFill Destination:=Range("R2:R52"), Type:=xlFillDefault
525. Range("R2:R52").**Select**
526. Range("Q51").**Select**
527. ActiveWindow.SmallScroll Down:=22
528. Range("Q50").**Select**
529. Selection.AutoFill Destination:=Range("Q50:Q52"), Type:=xlFillDefault
530. Range("Q50:Q52").**Select**
531. ActiveWindow.SmallScroll Down:=-32
532. Range("S2").**Select**
533. ActiveWindow.SmallScroll Down:=0
534. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-18])=9,1,0)"
535. Range("S2").**Select**
536. Selection.AutoFill Destination:=Range("S2:S52"), Type:=xlFillDefault
537. Range("S2:S52").**Select**
538. ActiveWindow.SmallScroll Down:=-11
539. Range("T2").**Select**
540. ActiveSheet.Paste
541. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-19])=10,1,0)"
542. Range("T2").**Select**
543. Selection.AutoFill Destination:=Range("T2:T52"), Type:=xlFillDefault
544. Range("T2:T52").**Select**
545. ActiveWindow.SmallScroll Down:=-10
546. Range("U2").**Select**
547. ActiveCell.FormulaR1C1 = "=IF(MONTH(RC[-20])=11,1,0)"
548. Range("U2").**Select**
549. Selection.AutoFill Destination:=Range("U2:U52"), Type:=xlFillDefault
550. Range("U2:U52").**Select**
551. Range("V46").**Select**
552. ActiveWindow.SmallScroll Down:=-14
553. ActiveWindow.SmallScroll ToRight:=0
554. **End** **Sub**
556. **Sub** calcdemand()
557. '
558. ' calcdemand Macro
559. '
561. '
562. Range("H53").**Select**
563. ActiveCell.FormulaR1C1 = "=R[-36]C[29]+(R[-35]C[19]\*52)+(R[-31]C[29]\*1)"
564. Range("H54").**Select**
565. ActiveCell.FormulaR1C1 = "=R[-37]C[29]+(R[-36]C[29]\*RC[1])+R[-31]C[29]\*1"
566. Range("H55").**Select**
567. ActiveWindow.SmallScroll ToRight:=-4
568. Range("H55").**Select**
569. ActiveCell.FormulaR1C1 = ""
570. Range("H55").**Select**
571. ActiveCell.FormulaR1C1 = "=R[-38]C[29]+(R[-37]C[29]\*RC[1])+(R[-31]C[29]\*1)"
572. Range("H56").**Select**
573. ActiveWindow.SmallScroll ToRight:=-6
574. **End** **Sub**
576. **Sub** calcproduction()
577. '
578. ' calcproduction Macro
579. '
581. '
582. Range("A53").**Select**
583. ActiveSheet.Paste
584. ActiveWindow.SmallScroll ToRight:=2
585. ActiveWindow.SmallScroll Down:=23
586. Range("I53").**Select**
587. ActiveWindow.SmallScroll Down:=-23
588. Range("J2").**Select**
589. ActiveWindow.SmallScroll Down:=0
590. Range("J53:J55").**Select**
591. Selection.ClearContents
592. Range("J2:J52").**Select**
593. Selection.AutoFill Destination:=Range("J2:J55"), Type:=xlFillDefault
594. Range("J2:J55").**Select**
595. Range("I53").**Select**
596. ActiveCell.FormulaR1C1 = "=R[-36]C[29]+(R[-35]C[29]\*RC[1])+(R[-31]C[29]\*1)"
597. Range("I54").**Select**
598. ActiveWindow.SmallScroll ToRight:=-1
599. Range("I54").**Select**
600. ActiveCell.FormulaR1C1 = "=R[-37]C[29]+(R[-36]C[29]\*RC[1])+R[-31]C[29]\*1"
601. Range("I55").**Select**
602. ActiveWindow.SmallScroll ToRight:=-1
603. Range("I55").**Select**
604. ActiveCell.FormulaR1C1 = "=R[-38]C[29]+(R[-37]C[29]\*RC[1])+(R[-31]C[29]\*1)"
605. Range("I56").**Select**
606. ActiveWindow.SmallScroll ToRight:=-3
607. **End** **Sub**
608. **Sub** calcholding()
609. '
610. ' calcholding Macro
611. '
613. '
614. Range("A53").**Select**
615. ActiveSheet.Paste
616. Range("B53").**Select**
617. ActiveWindow.SmallScroll Down:=-1
618. Range("J50:J52").**Select**
619. Selection.AutoFill Destination:=Range("J50:J55"), Type:=xlFillDefault
620. Range("J50:J55").**Select**
621. Range("I53").**Select**
622. ActiveCell.FormulaR1C1 = "=R[-36]C[28]+(R[-35]C[28]\*RC[1])+(R[-31]C[28]\*1)"
623. Range("I54").**Select**
624. ActiveWindow.SmallScroll ToRight:=-1
625. Range("I54").**Select**
626. ActiveCell.FormulaR1C1 = "=R[-37]C[28]+(R[-36]C[28]\*RC[1])+(R[-31]C[28]\*1)"
627. Range("I55").**Select**
628. ActiveWindow.SmallScroll ToRight:=-1
629. ActiveWindow.SmallScroll Down:=3
630. ActiveCell.FormulaR1C1 = "=R[-38]C[28]+(R[-37]C[28]\*RC[1])+(R[-31]C[28]\*1)"
631. Range("I56").**Select**
632. ActiveWindow.SmallScroll ToRight:=-4
633. **End** **Sub**
635. **Sub** forecast3months()
636. **Dim** wsData **As** Worksheet
638. ' Set reference to the "Data" sheet
639. **Set** wsData = ThisWorkbook.Sheets("Data")
641. ' Input forecast dates into column A
642. wsData.Range("A53").Value = "4/24/2024"
643. wsData.Range("A54").Value = "5/24/2024"
644. wsData.Range("A55").Value = "6/24/2024"
646. ' Input forecasted values into columns B, C, and D
647. wsData.Range("B53").Value = 36.54
648. wsData.Range("B54").Value = 38.59
649. wsData.Range("B55").Value = 36.61
651. wsData.Range("C53").Value = 5.39
652. wsData.Range("C54").Value = 5.24
653. wsData.Range("C55").Value = 5.25
655. wsData.Range("D53").Value = 4.51
656. wsData.Range("D54").Value = 4.55
657. wsData.Range("D55").Value = 4.63
658. **End** **Sub**

661. **Sub** quartregressiondemand()
662. '
663. ' regressiondemand Macro
664. '
666. '
667. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
668. ActiveSheet.Range("$D$1:$G$52"), **False**, **True**, , ActiveSheet.Range("$Z$1") \_
669. , **True**, **False**, **False**, **False**, , **False**
670. Range("AC7").**Select**
671. **End** **Sub**

674. **Sub** quatregprod()
675. '
676. ' quatregprod Macro
677. '
679. '
680. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
681. ActiveSheet.Range("$D$1:$G$52"), **False**, **True**, , ActiveSheet.Range("$Z$1") \_
682. , **True**, **False**, **False**, **False**, , **False**
683. Range("W16").**Select**
684. **End** **Sub**
685. **Sub** quartreghold()
686. '
687. ' quartreghold Macro
688. '
690. '
691. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
692. ActiveSheet.Range("$D$1:$G$52"), **False**, **True**, , ActiveSheet.Range("$Z$1") \_
693. , **True**, **False**, **False**, **False**, , **False**
694. **End** **Sub**
695. **Sub** monthregdemand()
696. '
697. ' monthregdemand Macro
698. '
700. '
701. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
702. ActiveSheet.Range("$I$1:$T$52"), **False**, **True**, , ActiveSheet.Range("$AJ$1") \_
703. , **True**, **False**, **False**, **False**, , **False**
704. Range("AH32").**Select**
705. Sheets("AUX\_Production").**Select**
706. **End** **Sub**
708. **Sub** monthregprod()
709. '
710. ' monthregprod Macro
711. '
713. '
714. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
715. ActiveSheet.Range("$J$1:$U$52"), **False**, **True**, , ActiveSheet.Range("$AK$1") \_
716. , **True**, **False**, **False**, **False**, , **False**
717. **End** **Sub**
718. **Sub** monthreghold()
719. '
720. ' monthreghold Macro
721. '
723. '
724. Application.Run "ATPVBAEN.XLAM!Regress", ActiveSheet.Range("$B$1:$B$52"), \_
725. ActiveSheet.Range("$J$1:$U$52"), **False**, **True**, , ActiveSheet.Range("$AJ$1") \_
726. , **True**, **False**, **False**, **False**, , **False**
727. **End** **Sub**
728. **Sub** quartmsfe()
729. '
730. ' quartmsfe Macro
731. '
733. '
734. Range("Z1").**Select**
735. ActiveCell.FormulaR1C1 = "QUARTERLYSUMMARY OUTPUT"
736. Range("AC6").**Select**
737. ActiveCell.FormulaR1C1 = "MSFE"
738. Range("AD6").**Select**
739. Application.CutCopyMode = **False**
740. ActiveCell.FormulaR1C1 = "=R[7]C[-2]/R[2]C[-3]"
741. Range("AD7").**Select**
742. Sheets("AUX\_Production").**Select**
743. Range("Z1").**Select**
744. ActiveCell.FormulaR1C1 = "QUARTERLYSUMMARY OUTPUT"
745. Range("AC6").**Select**
746. ActiveCell.FormulaR1C1 = "MSFE"
747. Range("AD6").**Select**
748. Application.CutCopyMode = **False**
749. ActiveCell.FormulaR1C1 = "=R[7]C[-2]/R[2]C[-3]"
750. Range("AD7").**Select**
751. Sheets("AUX\_Holding").**Select**
752. Range("Z1").**Select**
753. ActiveCell.FormulaR1C1 = "QUARTERLYSUMMARY OUTPUT"
754. Range("AC6").**Select**
755. ActiveCell.FormulaR1C1 = "MSFE"
756. Range("AD6").**Select**
757. Application.CutCopyMode = **False**
758. ActiveCell.FormulaR1C1 = "=R[7]C[-2]/R[2]C[-3]"
759. Range("AD7").**Select**
760. **End** **Sub**
761. **Sub** monthlymsfe()
762. '
763. ' monthlymsfe Macro
764. '
766. '
767. Range("AJ1").**Select**
768. ActiveCell.FormulaR1C1 = "MONTHLYSUMMARY OUTPUT"
769. Selection.Cut Destination:=Range("AK1")
770. Range("AJ1").**Select**
771. Columns("AK:AK").ColumnWidth = 29.43
772. Range("AM5").**Select**
773. ActiveCell.FormulaR1C1 = "MSFE"
774. Range("AN5").**Select**
775. Application.CutCopyMode = **False**
776. ActiveCell.FormulaR1C1 = "=R[8]C[-2]/R[3]C[-3]"
777. Range("AN6").**Select**
778. Sheets("AUX\_Production").**Select**
779. Range("AK1").**Select**
780. ActiveCell.FormulaR1C1 = "MONTHLYSUMMARY OUTPUT"
781. Range("AL1").**Select**
782. Columns("AL:AL").ColumnWidth = 14.71
783. Columns("AK:AK").ColumnWidth = 14.86
784. Range("AN4").**Select**
785. ActiveCell.FormulaR1C1 = "MSFE"
786. Range("AO4").**Select**
787. Application.CutCopyMode = **False**
788. ActiveCell.FormulaR1C1 = "=R[9]C[-2]/R[4]C[-3]"
789. Range("AO5").**Select**
790. Sheets("AUX\_Holding").**Select**
791. Range("AJ1").**Select**
792. ActiveCell.FormulaR1C1 = "MONTHLYSUMMARY OUTPUT"
793. Selection.Cut Destination:=Range("AK1")
794. Range("AK1").**Select**
795. Columns("AK:AK").ColumnWidth = 21.43
796. Range("AM5").**Select**
797. ActiveCell.FormulaR1C1 = "MSFE"
798. Range("AN5").**Select**
799. Application.CutCopyMode = **False**
800. ActiveCell.FormulaR1C1 = "=R[8]C[-2]/R[3]C[-3]"
801. Range("AN6").**Select**
802. **End** **Sub**
803. **Sub** monthlyformat()
804. '
805. ' monthlyformat Macro
806. '
808. '
809. Range("H1:T52").**Select**
810. **With** Selection.Interior
811. .Pattern = xlSolid
812. .PatternColorIndex = xlAutomatic
813. .ThemeColor = xlThemeColorDark2
814. .TintAndShade = -0.0999786370433668
815. .PatternTintAndShade = 0
816. **End** **With**
817. Range("W9").**Select**
818. ActiveWindow.ScrollColumn = 5
819. ActiveWindow.ScrollColumn = 6
820. ActiveWindow.ScrollColumn = 7
821. ActiveWindow.ScrollColumn = 8
822. ActiveWindow.ScrollColumn = 9
823. ActiveWindow.ScrollColumn = 10
824. ActiveWindow.ScrollColumn = 11
825. ActiveWindow.ScrollColumn = 12
826. ActiveWindow.ScrollColumn = 13
827. ActiveWindow.ScrollColumn = 14
828. ActiveWindow.ScrollColumn = 15
829. ActiveWindow.ScrollColumn = 16
830. ActiveWindow.ScrollColumn = 17
831. ActiveWindow.ScrollColumn = 18
832. ActiveWindow.ScrollColumn = 19
833. ActiveWindow.ScrollColumn = 20
834. ActiveWindow.ScrollColumn = 21
835. Range("AK1").**Select**
836. **With** Selection.Interior
837. .Pattern = xlSolid
838. .PatternColorIndex = xlAutomatic
839. .ThemeColor = xlThemeColorDark2
840. .TintAndShade = -0.0999786370433668
841. .PatternTintAndShade = 0
842. **End** **With**
843. Range("AM5:AN5").**Select**
844. **With** Selection.Interior
845. .Pattern = xlSolid
846. .PatternColorIndex = xlAutomatic
847. .ThemeColor = xlThemeColorDark2
848. .TintAndShade = -0.0999786370433668
849. .PatternTintAndShade = 0
850. **End** **With**
851. Range("AJ16:AK29").**Select**
852. **With** Selection.Interior
853. .Pattern = xlSolid
854. .PatternColorIndex = xlAutomatic
855. .ThemeColor = xlThemeColorDark2
856. .TintAndShade = -0.0999786370433668
857. .PatternTintAndShade = 0
858. **End** **With**
859. Range("AL13").**Select**
860. **With** Selection.Interior
861. .Pattern = xlSolid
862. .PatternColorIndex = xlAutomatic
863. .ThemeColor = xlThemeColorDark2
864. .TintAndShade = -0.0999786370433668
865. .PatternTintAndShade = 0
866. **End** **With**
867. Range("AK8").**Select**
868. **With** Selection.Interior
869. .Pattern = xlSolid
870. .PatternColorIndex = xlAutomatic
871. .ThemeColor = xlThemeColorDark2
872. .TintAndShade = -0.0999786370433668
873. .PatternTintAndShade = 0
874. **End** **With**
875. Sheets("AUX\_Production").**Select**
876. ActiveWindow.ScrollColumn = 19
877. ActiveWindow.ScrollColumn = 18
878. ActiveWindow.ScrollColumn = 17
879. ActiveWindow.ScrollColumn = 16
880. ActiveWindow.ScrollColumn = 15
881. ActiveWindow.ScrollColumn = 14
882. ActiveWindow.ScrollColumn = 13
883. ActiveWindow.ScrollColumn = 12
884. ActiveWindow.ScrollColumn = 11
885. ActiveWindow.ScrollColumn = 10
886. ActiveWindow.ScrollColumn = 9
887. ActiveWindow.ScrollColumn = 8
888. ActiveWindow.ScrollColumn = 7
889. ActiveWindow.ScrollColumn = 6
890. Range("I1:U52").**Select**
891. **With** Selection.Interior
892. .Pattern = xlSolid
893. .PatternColorIndex = xlAutomatic
894. .ThemeColor = xlThemeColorAccent6
895. .TintAndShade = 0.799981688894314
896. .PatternTintAndShade = 0
897. **End** **With**
898. Range("W12").**Select**
899. ActiveWindow.ScrollColumn = 7
900. ActiveWindow.ScrollColumn = 8
901. ActiveWindow.ScrollColumn = 9
902. ActiveWindow.ScrollColumn = 10
903. ActiveWindow.ScrollColumn = 11
904. ActiveWindow.ScrollColumn = 12
905. ActiveWindow.ScrollColumn = 13
906. ActiveWindow.ScrollColumn = 14
907. ActiveWindow.ScrollColumn = 15
908. ActiveWindow.ScrollColumn = 16
909. ActiveWindow.ScrollColumn = 17
910. ActiveWindow.ScrollColumn = 18
911. ActiveWindow.ScrollColumn = 19
912. ActiveWindow.ScrollColumn = 20
913. ActiveWindow.ScrollColumn = 21
914. ActiveWindow.ScrollColumn = 22
915. ActiveWindow.ScrollColumn = 23
916. ActiveWindow.ScrollColumn = 24
917. Range("AK1:AL1").**Select**
918. **With** Selection.Interior
919. .Pattern = xlSolid
920. .PatternColorIndex = xlAutomatic
921. .ThemeColor = xlThemeColorAccent6
922. .TintAndShade = 0.799981688894314
923. .PatternTintAndShade = 0
924. **End** **With**
925. Range("AN4:AO4").**Select**
926. **With** Selection.Interior
927. .Pattern = xlSolid
928. .PatternColorIndex = xlAutomatic
929. .ThemeColor = xlThemeColorAccent6
930. .TintAndShade = 0.799981688894314
931. .PatternTintAndShade = 0
932. **End** **With**
933. Range("AL8").**Select**
934. **With** Selection.Interior
935. .Pattern = xlSolid
936. .PatternColorIndex = xlAutomatic
937. .ThemeColor = xlThemeColorAccent6
938. .TintAndShade = 0.799981688894314
939. .PatternTintAndShade = 0
940. **End** **With**
941. Range("AM13").**Select**
942. **With** Selection.Interior
943. .Pattern = xlSolid
944. .PatternColorIndex = xlAutomatic
945. .ThemeColor = xlThemeColorAccent6
946. .TintAndShade = 0.799981688894314
947. .PatternTintAndShade = 0
948. **End** **With**
949. Range("AK16:AL29").**Select**
950. **With** Selection.Interior
951. .Pattern = xlSolid
952. .PatternColorIndex = xlAutomatic
953. .ThemeColor = xlThemeColorAccent6
954. .TintAndShade = 0.799981688894314
955. .PatternTintAndShade = 0
956. **End** **With**
957. Range("AI20").**Select**
958. Sheets("AUX\_Holding").**Select**
959. ActiveWindow.ScrollColumn = 21
960. ActiveWindow.ScrollColumn = 20
961. ActiveWindow.ScrollColumn = 19
962. ActiveWindow.ScrollColumn = 18
963. ActiveWindow.ScrollColumn = 17
964. ActiveWindow.ScrollColumn = 16
965. ActiveWindow.ScrollColumn = 15
966. ActiveWindow.ScrollColumn = 14
967. ActiveWindow.ScrollColumn = 13
968. ActiveWindow.ScrollColumn = 12
969. ActiveWindow.ScrollColumn = 11
970. ActiveWindow.ScrollColumn = 10
971. ActiveWindow.ScrollColumn = 9
972. ActiveWindow.ScrollColumn = 8
973. ActiveWindow.ScrollColumn = 7
974. ActiveWindow.ScrollColumn = 6
975. ActiveWindow.ScrollColumn = 5
976. ActiveWindow.ScrollColumn = 4
977. ActiveWindow.ScrollColumn = 3
978. ActiveWindow.ScrollColumn = 2
979. ActiveWindow.ScrollColumn = 1
980. Range("I1:T52").**Select**
981. **With** Selection.Interior
982. .Pattern = xlSolid
983. .PatternColorIndex = xlAutomatic
984. .ThemeColor = xlThemeColorLight2
985. .TintAndShade = 0.599993896298105
986. .PatternTintAndShade = 0
987. **End** **With**
988. Columns("T:T").ColumnWidth = 11
989. Range("U1:U52").**Select**
990. **With** Selection.Interior
991. .Pattern = xlSolid
992. .PatternColorIndex = xlAutomatic
993. .ThemeColor = xlThemeColorLight2
994. .TintAndShade = 0.599993896298105
995. .PatternTintAndShade = 0
996. **End** **With**
997. ActiveWindow.ScrollColumn = 2
998. ActiveWindow.ScrollColumn = 3
999. ActiveWindow.ScrollColumn = 4
1000. ActiveWindow.ScrollColumn = 5
1001. ActiveWindow.ScrollColumn = 6
1002. ActiveWindow.ScrollColumn = 7
1003. ActiveWindow.ScrollColumn = 9
1004. ActiveWindow.ScrollColumn = 10
1005. ActiveWindow.ScrollColumn = 11
1006. ActiveWindow.ScrollColumn = 12
1007. ActiveWindow.ScrollColumn = 13
1008. ActiveWindow.ScrollColumn = 14
1009. ActiveWindow.ScrollColumn = 15
1010. ActiveWindow.ScrollColumn = 16
1011. ActiveWindow.ScrollColumn = 17
1012. ActiveWindow.ScrollColumn = 18
1013. ActiveWindow.ScrollColumn = 19
1014. ActiveWindow.ScrollColumn = 20
1015. ActiveWindow.ScrollColumn = 21
1016. ActiveWindow.ScrollColumn = 22
1017. ActiveWindow.ScrollColumn = 23
1018. Range("AK1:AL1").**Select**
1019. **With** Selection.Interior
1020. .Pattern = xlSolid
1021. .PatternColorIndex = xlAutomatic
1022. .ThemeColor = xlThemeColorLight2
1023. .TintAndShade = 0.599993896298105
1024. .PatternTintAndShade = 0
1025. **End** **With**
1026. Range("AM5:AN5").**Select**
1027. **With** Selection.Interior
1028. .Pattern = xlSolid
1029. .PatternColorIndex = xlAutomatic
1030. .ThemeColor = xlThemeColorLight2
1031. .TintAndShade = 0.599993896298105
1032. .PatternTintAndShade = 0
1033. **End** **With**
1034. Range("AK8").**Select**
1035. **With** Selection.Interior
1036. .Pattern = xlSolid
1037. .PatternColorIndex = xlAutomatic
1038. .ThemeColor = xlThemeColorLight2
1039. .TintAndShade = 0.599993896298105
1040. .PatternTintAndShade = 0
1041. **End** **With**
1042. Range("AL13").**Select**
1043. **With** Selection.Interior
1044. .Pattern = xlSolid
1045. .PatternColorIndex = xlAutomatic
1046. .ThemeColor = xlThemeColorLight2
1047. .TintAndShade = 0.599993896298105
1048. .PatternTintAndShade = 0
1049. **End** **With**
1050. Range("AJ16:AK29").**Select**
1051. **With** Selection.Interior
1052. .Pattern = xlSolid
1053. .PatternColorIndex = xlAutomatic
1054. .ThemeColor = xlThemeColorLight2
1055. .TintAndShade = 0.599993896298105
1056. .PatternTintAndShade = 0
1057. **End** **With**
1058. Range("AK10").**Select**
1059. **End** **Sub**

Citation

When searching how to copy VBA code with highlights (syntax highlighter)  
Reference:  
Caluori, N. (n.d.). Syntax Highlighter for Word - K26. [https://syntax-highlighter.k26.ch/#](https://syntax-highlighter.k26.ch/)

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