Operations Management 101 A Guide to Microsoft Excel using select problems.

Below are instructions for Problem 6 in Chapter 18.

Step 1: Insert a Data table.

- a) In cell A1, type "Data" and press Enter.
- b) With your mouse, highlight Cells A1 to F1.
- c) Press the Merge and center button in the top toolbar (pictured below).



d) Click cell A1 and create outline using icon shown below:

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- e) In cell A3, type "Month." Press enter.
- f) To underline, click cell A3 and click icon shown below:



- g) In cell A15, type "January"; press enter
- h) Click cell A15 and hover mouse over the bottom right-hand corner until a bold cross appears.
- i) Click and drag down to cell A20
- j) Repeat above steps and recreate the table shown below:

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1		Data				
2						
3	Month	Actual	Forecast			
4	January	100	80			
5	February	94				
6	March	106				
7	April	80				
8	May	68				
9	June	94				

Step 2: Determine the forecast using single exponential smoothing

- a) In cell B13 type ".2" because this will need to be referenced in later formulas.
- b) In cell B15, type "=B4"; press enter.
- c) To copy this formula into the other cells:
 - i. Click cell B15
 - ii. Hover your mouse over the bottom right-hand corner until a bold cross appears.
 - iii. Click and drag down to cell B20.
- d) In cell C15 type "=C4"; press enter.
- e) In cell C16 type "=C15+(\$B\$13*(B15-C15))"
 - a) The dollar sign (\$) makes use of what is known as an Absolute Reference. This is necessary in order to copy the formula into cells C17-C20 because the formula needs to reference those exact cells every time.

Copy this formula into cell C17-C20 using steps described in Step 2 part c.

Step 3: Determine MAD

- a) Highlight cells A14-C20.
- b) Press copy button, shown below:



- c) Click cell A24.
- d) Press paste button, shown below:



- e) In cell D24, type "Absolute Deviation."
- f) To adjust the column width, double-click the area shown below:



- g) In cell D25, type "=ABS(B25-C25)"; press enter.
 - i. The ABS formula returns the absolute value of the function.
- h) Copy the formula into cells D26 to D30 using the steps described in Step 2 part c.
- i) In cell D 32, type "=SUM(D25:E30)"; press enter.
- j) In cell B34, type "6"
- k) In cell B36, type "=D32/B34"; press enter.

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	F17	- (*	f _x			
	A	В	С	D	E	F
14		Actual	Forecast			
15	January	=84	80			
16	February	=85	=C15+(\$8\$13*(815-C			
17	March	=86	=C16+(\$8\$13*(816-C			
18	April	=87	=C17+(\$8\$13*(817-C			
19	May	=88	=C18+(\$8\$13*(B18-C			
20	June	=89	=C19+(\$8\$13*(819-C			
21						
22	b) MAD = Sum of	fAbs				
23						
24		=814	=C14	Absolute De	eviation	
25	=A15	=815	=C15	=ABS(825-C25)		
26	=A16	=B16	=C16	=ABS(B26-C26)		
27	=A17	=817	=C17	=ABS(B27-C27)		
28	=A18	=B18	=C18	=ABS(B28-C28)		
29	=A19	=819	=C19	=ABS(829-C29)		
30	=A20	=B20	=C20	=ABS(B30-C30)		
31						
32	Total:			=SUM(D25:E30)		
33						
34		n = 6				
35						
36	MAD =	=D32/B34				

l) Below is a screenshot of what your answers should look like:

			0	2	-	-
	A	В	C	D	E	F
14		Actual	Forecast			
15	January	100	80			
16	February	94	84			
17	March	106	86			
18	April	80	90			
19	May	68	88			
20	June	94	84			
21						
22	b) MAD = 3	Sum of Abs	olute devi	iation / n		
23						
24		Actual	Forecast	Absolute	Deviation	
25	January	100	80	2	0	
26	February	94	84	1	0	
27	March	106	86	2	0	
28	April	80	90	1	0	
29	May	68	88	2	0	
30	June	94	84	1	0	
31						
32	Total:			9	0	
33						
34	n =	6				
35						
36	MAD =	15				