CHALLENGE

Case Problem 3

Data File needed for this Case Problem: FTP.xslx

Succeed Gym Allison Palmer is the owner of Succeed Gym, an athletic club in Austin, Texas, that specializes in coaching men and women aspiring to participate in triathlons, marathons, and other endurance sports. During the winter, Allison runs an indoor cycling class in which she tracks the progress of each student's fitness. One measure of fitness is FTP (Functional Threshold Power). Allison has recorded FTP levels from her students over five races and wants you to use the functions described in Figure 1-46 to analyze this data so that she can track the progress of her class and of individual students.

Figure 1-46 Excel functions

Function	Description
=AVERAGE(*range*)	Calculates the average of the values from the specified *range*
=MEDIAN(*range*)	Calculates the median or midpoint of the values from the specified *range*
=MIN(*range*)	Calculates the minimum of the values from the specified *range*
=MAX(*range*)	Calculates the maximum of the values from the specified *range*

Complete the following:

1. Open the **FTP** workbook located the Excel1 > Case3 folder included with your Data Files. Save the workbook as **FTP Report** in the location specified by your instructor.
2. In the Documentation sheet, enter your name in cell B3 and the date in cell B4.
3. Go to the Race Results worksheet. Change the font size of the title in cell A1 to 28 points.
4. Set the width of column A and B to 15 characters. Set the width of column I to 2 characters.
5. In the range J4:M4, enter the labels **Median**, **Average**, **Min**, and **Max**.
6. **Explore** In cell J5, use the MEDIAN function to calculate the median (midpoint) of the FTP values of races 1 through 5 for Diana Bartlett in the range D5:H5. Copy the formula in cell J5 to the range J6:J28 to calculate the median FTP values for the other riders.
7. **Explore** In cell K5, use the AVERAGE function to calculate the average the FTP value for races 1 through 5 for Diana Bartlett. Copy the formula to calculate the averages for the other riders.
8. **Explore** In cell L5, use the MIN function to return the minimum FTP value for Diana Bartlett. Copy the formula to calculate the minimums for the other riders.
9. **Explore** In cell M5, use the MAX function to return the maximum FTP value for Diana Bartlett. Copy the formula to calculate the maximums for the other riders.
10. In the range C30:C33, enter the labels **Median**, **Average**, **Min**, and **Max** to record summary information for each of the five races.
11. In cell D30, use the MEDIAN function to calculate the median FTP value from the range D5:D28. Copy the formula to the range E30:H30 to determine the median values for the other four races.
12. In the range D31:H31, use the AVERAGE function to calculate the average FTP value for each race.
13. In the range D32:H32, use the MIN function to calculate the minimum value for each race.
14. In the range D33:H33, use the MAX function to calculate the maximum FTP value for each race.
15. Move the range A4:M33 to the range A10:M39 to create space for additional summary calculations at the top of the worksheet.

16. In the range A3:A7, enter the labels **Class Size**, **Class Average**, **Class Median**, **Class Minimum**, and **Class Maximum**.
17. **Explore** In cell B3, use the COUNTA function to count the number of entries in the range A11:A34.
18. In cell B4, use the AVERAGE function to calculate the average of all FTP values in the range D11:H34.
19. In cell B5, use the MEDIAN function to calculate the median of all FTP values in the range D11:H34.
20. In cell B6, use the MIN function to calculate the minimum FTP value in the range D11:H34.
21. In cell B7, use the MAX function to calculate the maximum FTP value in the range D11:H34.
22. Set the page layout orientation for the Race Results worksheet to portrait and scale the worksheet so that its width and height fit on one page.
23. View the worksheet in Page Layout view, return to Normal view, and then save and close the workbook.

TROUBLESHOOT

Case Problem 4

Data File needed for this Case Problem: Service.xlsx

Welch Home Appliance Repair Stefan Welch is the owner of Welch Home Appliance Repair in Trenton, New Jersey. Stefan wants to use Excel to record data from his service calls to calculate the total charge on each service call and the total charges from all service calls within a given period. Unfortunately, the workbook he has created contains several errors. He has asked you to fix the errors and complete the workbook. Complete the following:

1. Open the **Service** workbook located in the Excel1 > Case4 folder included with your Data Files. Save the workbook as **Service Calls** in the location specified by your instructor.
2. In the Documentation sheet, enter your name in cell B3 and the date in cell B4.
3. Go to the Call Sheet worksheet. Insert cells in the range A7:A27, shifting the other cells to the right.
4. In cell A7, enter **Cust ID** as the label. In cell A8, enter **Jensen-5864** (the customer's last name and last four digits on the phone number) as the customer ID for Patricia Jensen. Use Flash Fill to enter in the remaining customer IDs in the column.
5. Resize the columns of the Call Sheet worksheet so that all of the column labels and the cell contents are completely displayed.
6. **Troubleshoot** There is a problem with the some of the customer ZIP codes. New Jersey ZIP codes begin with a 0, and these leading zeros are not showing up in the contact information. Revise the text of the ZIP code values to correct this problem.
7. **Troubleshoot** The formula in cell L8 that calculates the total number of billable hours for the first customer is not correct. Instead of showing the number of hours, it displays the value as a percentage of a day. Fix this problem by revising the formula so that it multiplies the difference between the value in K8 and J8 by 24. (*Hint:* Use parentheses to enclose the expression that calculates the difference between starting and ending times so that the difference is calculated first.)
8. Copy the formula you entered for cell L8 to calculate the total billable hours for the rest of the entries in column L.
9. The total charge for each service call is equal to the hourly rate multiplied by the number of hours plus the charge for parts. In cell O8, enter a formula to calculate the total service charge for the first customer, and then copy that formula to calculate the rest of the service charges in column O.
10. In cell B4, enter a formula that uses the COUNT function to count the total number of service calls.
11. **Troubleshoot** In cell B5, Stefan entered a formula to calculate the total charges from all of the service calls. Examine the formula, and correct the expression so that it adds all of the service call charges.