EXC19E3 - Practical Component Instructions

Time required for the Practical Component: approximately 1.5 hours

Complete the practical component by following these instructions. You will use your completed practical component to answer the 40 questions comprising the online exam, but you will not submit or upload the practical component in myAOLCC.

Please return these instructions and your completed practical component to your Learning Coach once you have completed the online exam.

Please note that these are general and not step-by-step instructions. In this practical component, you will use Microsoft Excel 2019 for the following purposes:

- changing the case of text and extracting characters from a text string
- calculating dates using a date function
- evaluating multiple conditions using the IFS function
- making calculations using the AutoSum function
- returning information based on its location in an array of data using the VLOOKUP function
- finding the median, mode, standard deviation, and quartiles using statistical functions
- converting an array of data to a table and formatting the table
- creating a PivotTable and a slicer and filtering the data in the PivotTable
- creating a PivotChart using the Radar chart type
- determining payment information for a loan, using financial functions and Goal Seek
- creating a macro to import external data

Instructions

Copy the file, **Product Development.xlsx**, which will be provided to you by your Learning Coach, to your personal folder in a new folder titled **My Exam**, which you will need to create.

Task 1

1. Open the file and select the **Developers** tab.

2. Use the **PROPER** function to format the text from range B2:B11. The formatted text should be placed into cells C2:C11.

3. Use the **TRIM** function in cells D2:D11 to remove the extra spaces from the names in range C2:C11.

4. Using text functions, you will convert the developers' names to the **Last name, Initial.** format using the following steps:

   - Determine how many characters you will need to include in order to have the name as **Last name, Initial.**

     Hints:

     *i. In cells E2:E11, use the **FIND** function to locate the number of characters of the last name followed by the space in the trimmed name.*

     *ii. In cells F2:F11, add **1** to the number in cells E2:E11 to include the first initial.*

   - Using the **LEFT** function and the **&**, copy the developers' names in the **Last name, Initial.** format to cells G2:G11.

     *Hint: To add the period after the first name initial, use **&"."**.*

Task 2

5. Select the **Product Development Schedule** tab, and then format cells G7:G16 in **English (United States)** Locale using the date format, **March 14, 2012**.

6. Populate range F7:F16 with the expected date for the delivery of the product using the **WORKDAY** function.

   Hints:

   i. The Expected Date of Product Delivery = Development Start Date located in cell C4 + Duration. Don't forget to include holidays, which are found on the Holidays tab.

   ii. Don't forget to use absolute references in the formula where necessary.

7. Use cells H7:H16 to enter the calculation for the number of days that the product is late. The number of days late is the date delivered minus the expected date.

   Hint: A positive number will be days late; a negative number will be delivery before the expected date (e.g., -2 means the product was delivered two days before its expected delivery date).

8. In cells I7:I16, using the **IFS** function, display the status of each developer based on number of days that the product was delivered after the expected delivery date. Use the **Developer Status Information** in cells K6:L10.

   Hints:

   i. The order of the conditions is critical to use the IFS function successfully.

   ii. Don't forget to use absolute references in the formula where necessary.

Task 3

9. Use the **AUTOSUM**, **MAX**, **MIN**, and **AVERAGE** functions to calculate the amounts in cells D17:D20.

10. Use the **VLOOKUP** function in column C to retrieve the Developers' names (in the **Last name, Initial.** format) corresponding to the Product Code in column B. The Developers' names are found on the Developers tab.

    Hint: The Developers' names array needs to have absolute references.

Task 4

11. Use the **MEDIAN** and **MODE.SNGL** functions in cells D23:D24 to determine the median and mode cost of development for products NP-ChA1 to NP-ChC2.

12. Calculate the standard deviation for the Cost of Development using the **STDEV.S** formula and enter it into cell D25.

13. Calculate the 1st and 3rd quartiles using the **QUARTILE.INC** function and enter them into cells D26:D27.

14. Format cells D17:D20 and D23:D27 with the **Currency** format, with **two decimals**.

Task 5

15. Insert a column between Column H and Column I.
    - Name the column, **Cost of Development Per Day ($)**.
    - In cell I7, insert a formula that calculates the cost of development per day.
      Hint: Use the Duration as the number of days.
    - Format Column I to two decimals if necessary.
16. Convert the range with headers, B6:J16, into a table.
17. Format the table with the **White, Table Style Medium 1** style.
18. Replace the formula in the cells in the Days Late column with the same formula, but using table references.

Task 6

19. Select the entire table from cell B6:J16 and create a PivotTable on a new worksheet.
20. Name the worksheet, **Development PivotTable**, and move it after the **Product Development Schedule** tab.
21. Include the **Developer**, **Days Late**, and **Cost of Development Per Day ($)** in the PivotTable.
22. In the **Values** drop zone, change the **Sum o**f **Days Late** to Averages.

    Hint: Use the arrow beside the field in the Values drop zone, select Value Field Settings, and check Average.
23. Place the **Average of Days Late** above the **Sum of Cost of Development Per Day ($)** in the Values drop zone.
24. Format the cells in the **Sum of Cost of Development Per Day ($)** column with the **Currency** style.
25. Add a **Status** slicer and place it on the right side of the PivotTable. Then filter the PivotTable to show only **Place on A List**.
26. Format cell B10 with two decimals (*Hint: Use the **Decrease Decimal** button on the Home ribbon)*.
27. Create a **Radar** PivotChart.
28. Place the PivotChart below the PivotTable, and enlarge it so that it spans about 20 rows and columns A to D.

Task 7

29. Select the **Financing** tab and enter the following information into cells B3:B7.

    Annual rate: **3.1**
    Payment period: **3 years**
    Amount borrowed: **$60,000**
    Payment at the beginning of the period (**1**)

    Note the final value of the loan will be zero.

    Hint: Ensure that the payment period is entered as months.

30. Format cell B3 as percent with 1 decimal places (**3.1%**) and cell B5 as **Currency** with 2 decimal places.

31. Using the **PMT** function, calculate the **monthly** payment in cell B9.

    Hint: Annual rate must be divided by 12 if the payments are monthly.

32. In cells B12:B47 and cells C12:C47, calculate the principal and interest portions for all of the payments over the payment period.

    Hint: Don't forget to use absolute references where needed if you are copying the formulas down the range of cells.

33. Using the keyboard shortcuts, Control + C and Control +V, copy the values found in cells B3:B9 into cells H3:H9.

    Hint: Make sure you copy the formula cell in B9.

34. Using the information in cells H3:H7 and H9 and the **Goal Seek** tool, determine what amount you can borrow to keep the monthly payment at $1,500.

    Hint: The monthly amount must be entered as a negative number because it is an amount that you are paying.

Task 8

35. Create a new blank workbook and save it to your Exam folder as **Finance Report.xlsm**.

    *Note: Be sure to save as an **xlsm** file.*

36. Create a macro called **Financing**.
    - Assign the shortcut key **Ctrl + h**, and save the macro in the current workbook.
    - The macro should do the following:
        - open a **new tab** in the new blank workbook
        - copy the data from cells A1:H9 on the **Financing** tab in the **Product Development** workbook to cell A1 in the new Sheet2 tab of the new workbook.
        - enlarge the columns of imported data where necessary to show all the data
        - click cell A1

37. Run the macro using the shortcut key.

Next Steps

- Save both files.
- Let your Learning Coach know that you have completed the practical component. Keep both Excel files open on your desktop so that you will have the information available as you complete the online exam for the practical component.

  Your Learning Coach will provide a code for you to access the online exam.