**INTRODUCTORY COMPUTER PRACTICE**

**Microsoft Windows 10**

**Microsoft Office 2016**

**MEMO: TOPIC 1.13**

**SPREADSHEETS**

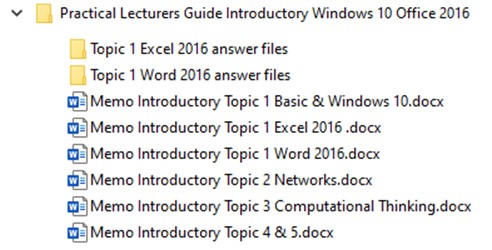
**MICROSOFT EXCEL 2016**

NOTE TO THE LECTURER:

For your convenience, some Excel exercise files that the student should create are already done and saved as, for example, LarriePie1.xlsx.xlsx, DebAge.xlsx. You can use these files if you want the student to complete the exercise by only adding the formulas or formatting.

NOTE:

The Excel practical answer files are in the folder **Topic 1 Excel 2016 answer files**.

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Practical Excel answer files

**TO THE LECTURER**

**Getting started**

Open MS Excel.

The students should take note that there is many similarities between Word and Excel, which make it so much easier to understand the basics, such as opening and saving a document. See the note before 1.13.4; point it out to students and let them make a list as suggested in this note.

**Calculations in Excel**

It is true that Excel is such a wonderful tool to do all calculations instantly and you have no need to do manual calculations.

This statement is not really true, because there are rules and methods you should know and apply or your answers will be wrong:

1. Be careful when entering data into a spreadsheet. Entering wrong numbers will calculate an incorrect answer; this will be the computer user's error and not an error by Excel. All entered data should be checked and re-checked before doing the calculations. Answers should be accurate.

2. The Excel user still has to know how to do calculations, for example to add two numbers and then to multiply this with another number. The user should know that brackets have to be used correctly in Excel to do this calculation. Cell references are used in formulas to do a calculation like this. The formula could be =(B2+C2)\*E2; correct use of brackets. They should be able, for example, to calculate a total as a percentage of the grand total. For this calculation, an absolute cell address should be used, for example =D10/$F$5 and format as percentage; press F4 to apply the absolute cell address for F5. They should use the Help function to learn more about absolute cell addresses.

**Important:**

Students should know the order in which calculations are carried out; see 1.15.2 and 1.15.1.

3. Correct formulas should be entered or answers will be wrong. Make sure the cell range included in the formula is correct, for example =SUM(B3:B8).

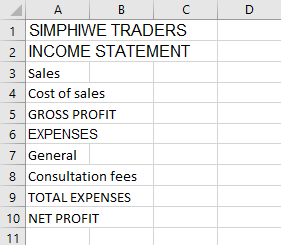
4. Make sure the correct function is used, for example =AVERAGE to calculate the average of a cell range.

5. Do a spot check: do a manual calculation and check with Excel's answer.

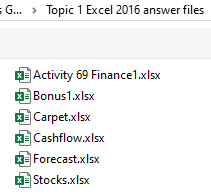
6. Let the student do an exercise manually first and write down their answers. Then they do the calculations in Excel to see how quick it can be done.

7. Check the formulas entered by the students. They might just have typed in the answers and entered no formulas. Display the formulas and let them print it.

**Activity 1.69: Create and Save (Finance1.xlsx)**

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**Activity 1.70**

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Open the groups of contigous and non-contiguous files as requested.

**TO THE LECTURER**

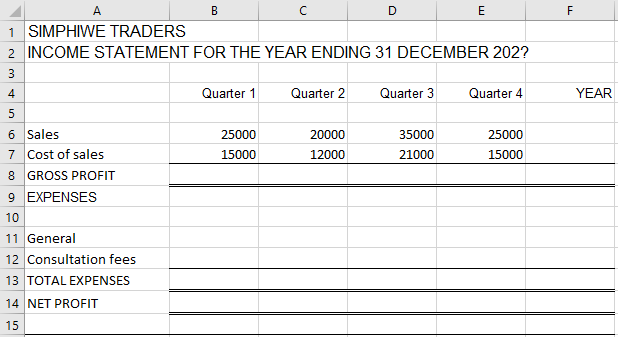
13.9 Export/Save a spreadsheet (called workbook in Excel) in another format

The lecturer can use this for a better understanding of: .rtf, .pdf, .csv and .txt format.

https://www.youtube.com/watch?v=2ApnfmBz4VQ

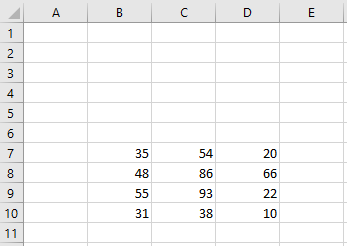
**Activity 1.72: Finance1.xlsx (continued)**

**Create and Save, rename sheet tabs**

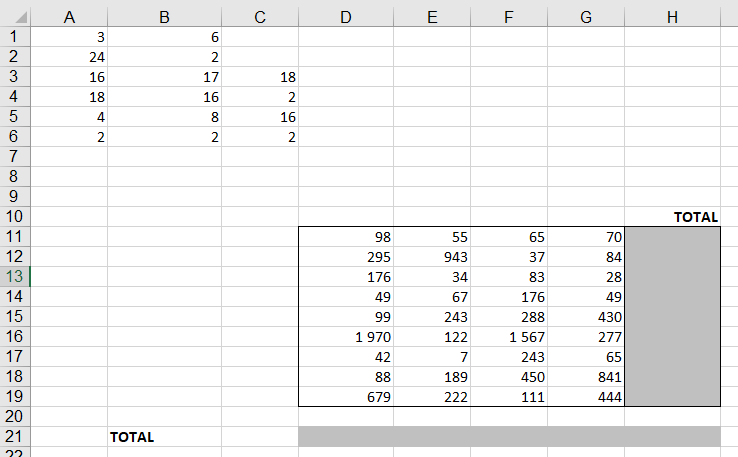


**Activity 1.73: Formula1.xlsx**

**File created to practise the different methods to insert formulas**

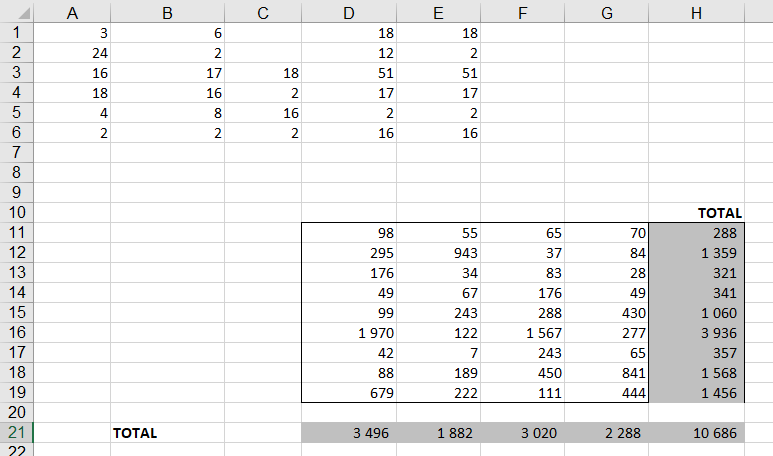


**Activity 1.74: Formula3.xlsx**

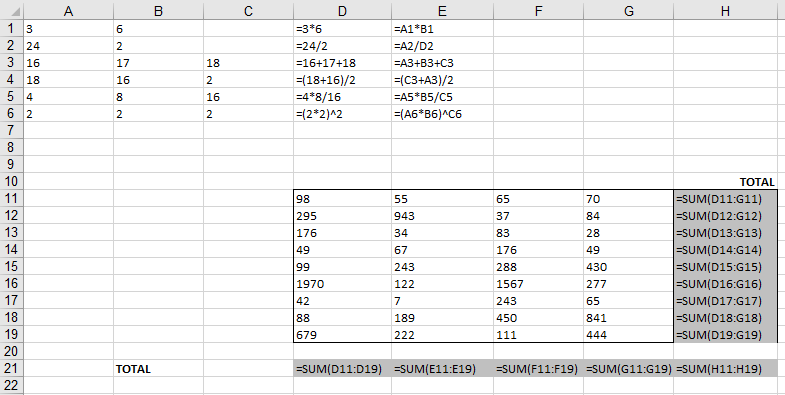


**Activity 1.74: Formula4.xlsx**

**Calculations**

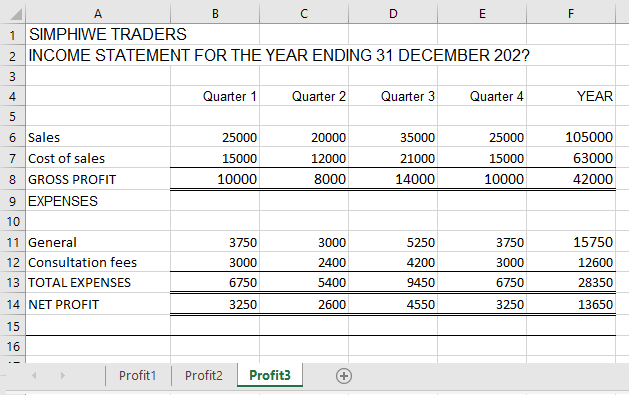


**Formulas**



**Activity 1.75: Finance1.xlsx, Profit3 sheet before formatting**

**Using Auto Fill to copy text and formulas**



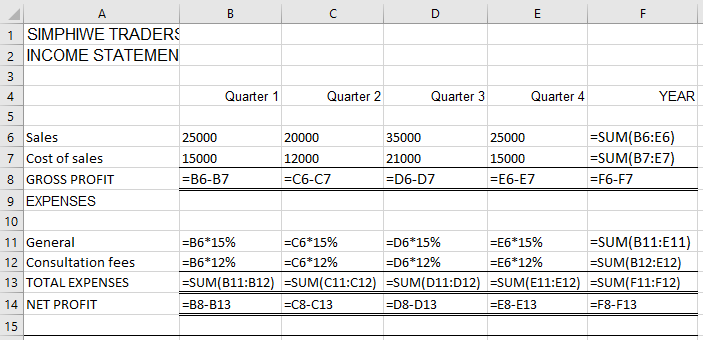
**To the lecturer:**

Copy the spreadsheet to a new sheet.

Display the formulas on this sheet. Press Ctrl + ` .

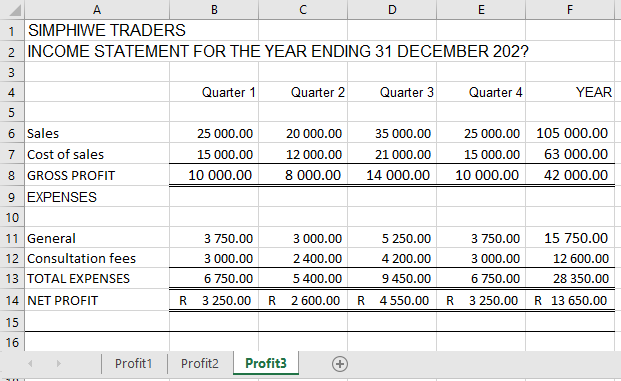
Column widths can be changed to fit in the formulas.

Save and print the formulas.



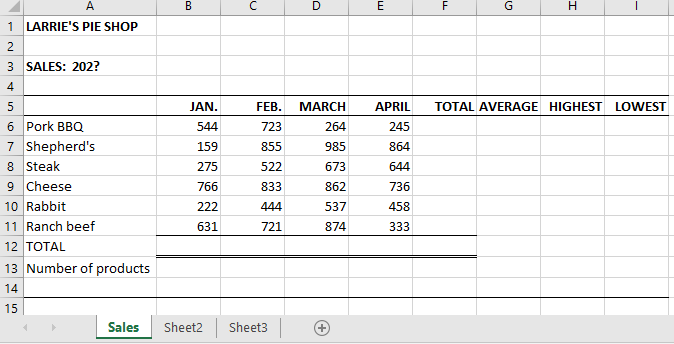
**Activity 1.76: Finance1.xlsx, Profit3 sheet after formatting**

**Formatting numbers**



**Activity 1.77: LarriePie1.xlsx**

**Edit a spreadsheet**



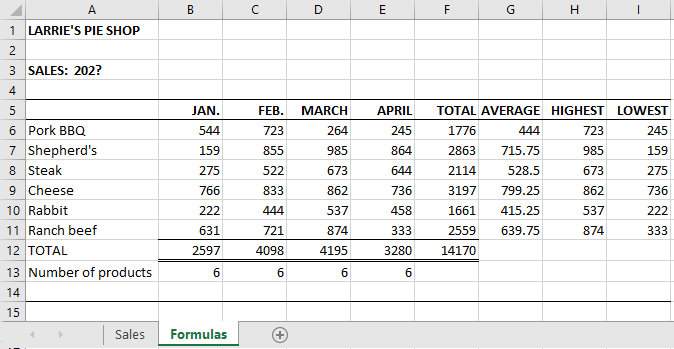
**Activity 1.77: LarriePie2.xlsx**

**Add formulas**

**To the lecturer:**

It is better to keep the spreadsheet together in one workbook. In the activity the instruction requested to copy to a new workbook. That was just to learn how to copy between workbooks.

The answer shows one workbook, with the two spreadsheets and the worksheet tab names added.



**Activity 1.77: LarriePie3.xlsx**

**Display formulas and print**

**To the lecturer:**

**Students should make sure that the spreadsheet is saved,**

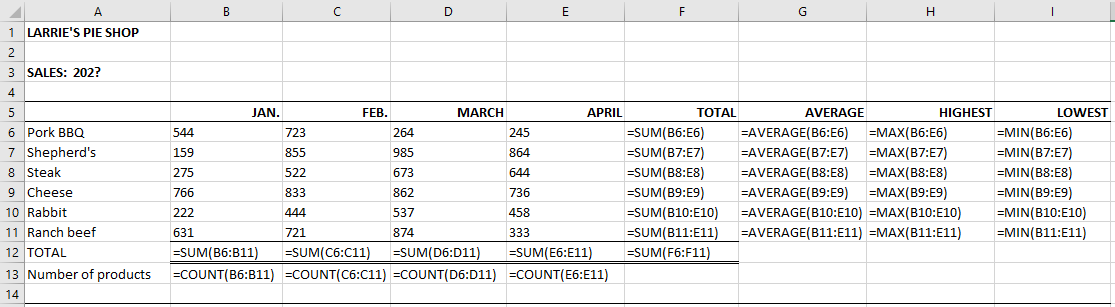
**then display formulas,**

**adjust columns to fit in the formulas,**

**then print.**

**Note: Close the spreadsheet without saving or all columns widths will be changed and too narrow.**

**It is always better to copy the spreadsheet to a new sheet and then display the formulas. The column widths can then be changed and saved.**



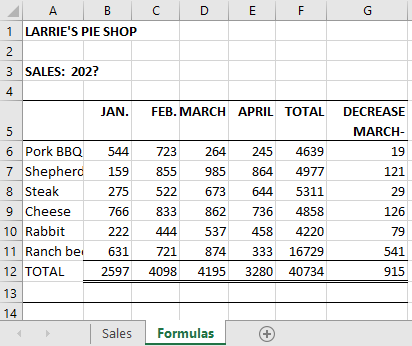
**Activity 1.78: LarriePie4.xlsx**

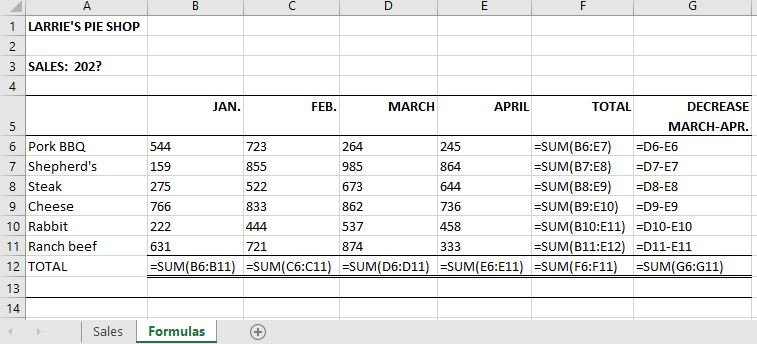
**Edit the spreadsheet and add formulas**

**To the lecturer:**

It is always a good idea to rename the sheet tabs; give descriptive names.

Students should always display and print the formulas.





**Activity 1.79: DebAge1.xlsx**

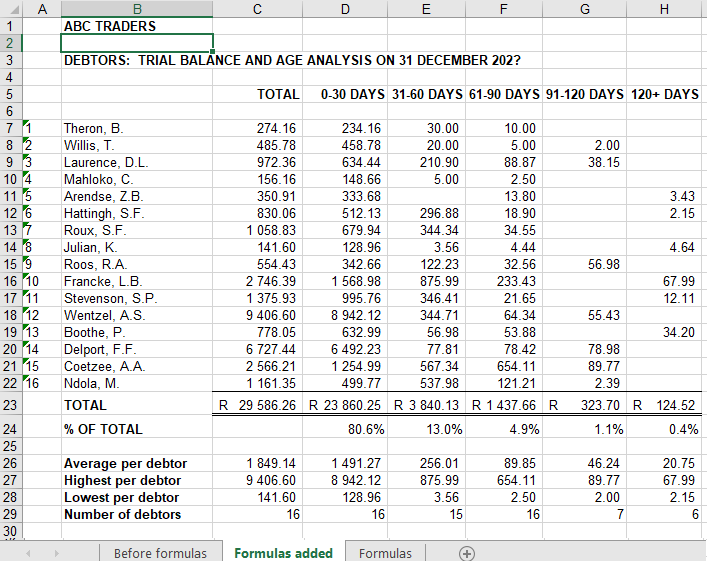
**Edit the spreadsheet and add formulas**

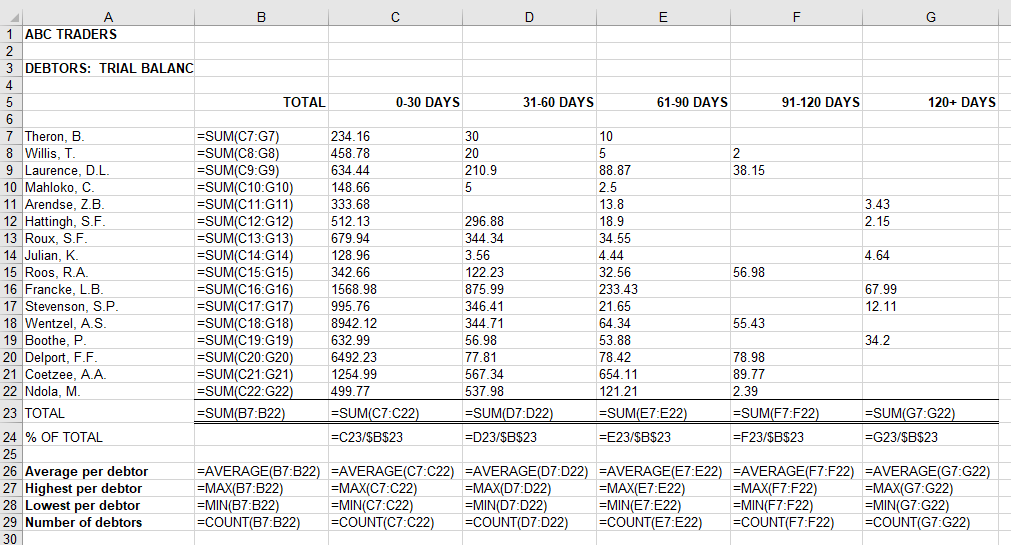
**To the lecturer:**

Students can use bold for the headings and add lines, for example for the Total, to enhance the spreadsheet.

The spreadsheet can be copied to separate sheets and rename the sheet tabs.

Display the formulas and print.





**Activity 1.80: Sales per Salesman2.xlsx**

**Integrated exercise: Edit the spreadsheet, add formulas, formatting**

**To the lecturer:**

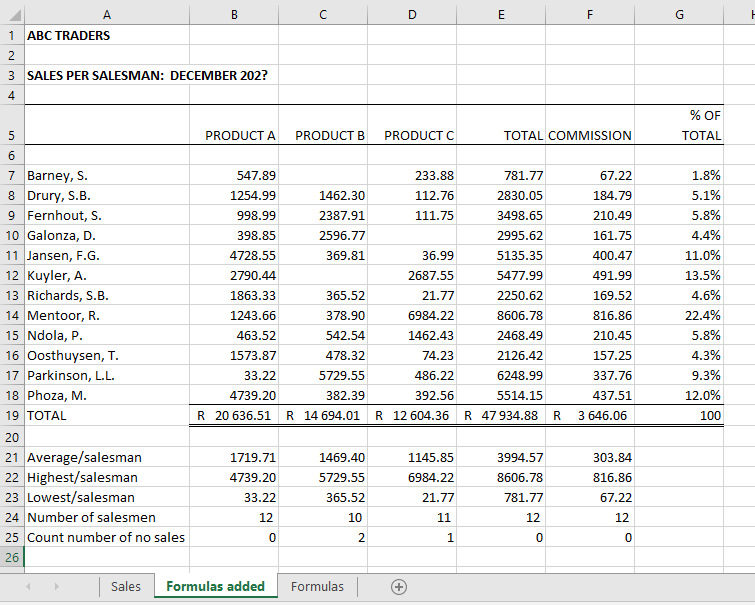
The spreadsheet can be copied to a separate sheets and rename the sheet tabs.

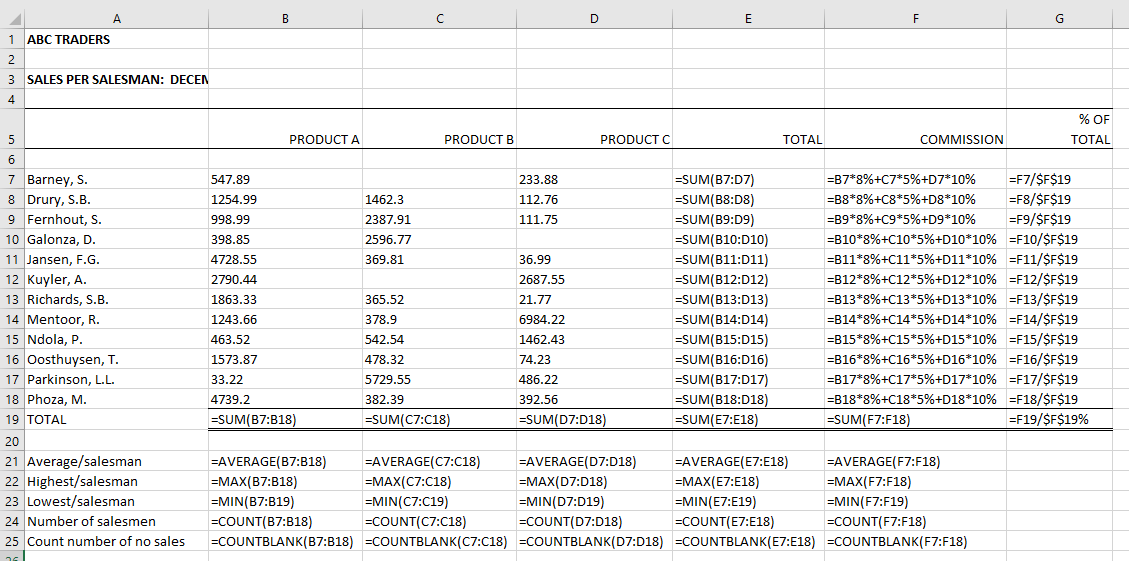
Student can add bold formatting to the headings and add border/lines to enhance the spreadsheet

Add **Count number of sales** in cell A30 to count blank cells in the sales.

Copy the answer sheet to a separate sheet, display the formulas and print.

**Note:** This exercise will be used in 1.15.5 to learn how to sort data. Copy the answer sheet to two separate sheets, rename the sheet tabs to SortAlph and SortNum and use it while learning how to sort data.





**Activity 1.81: Debtors Answer.xlsx**

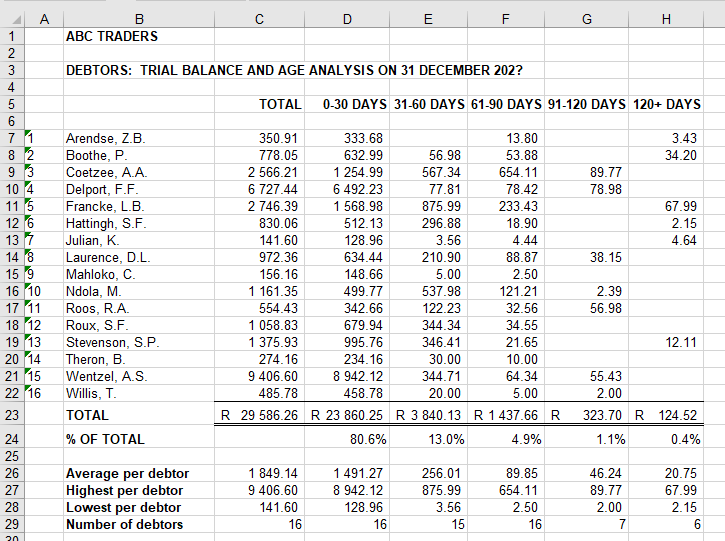
**Sort data according to the names, alphabetical order**

**To the lecturer:**

Check, for example, Theron, B. if the correct numbers are still next to his name.

The numbers in column A should still be in number order, not sorted with the names and data.

The sheet tab should be named as **DebAlph**.

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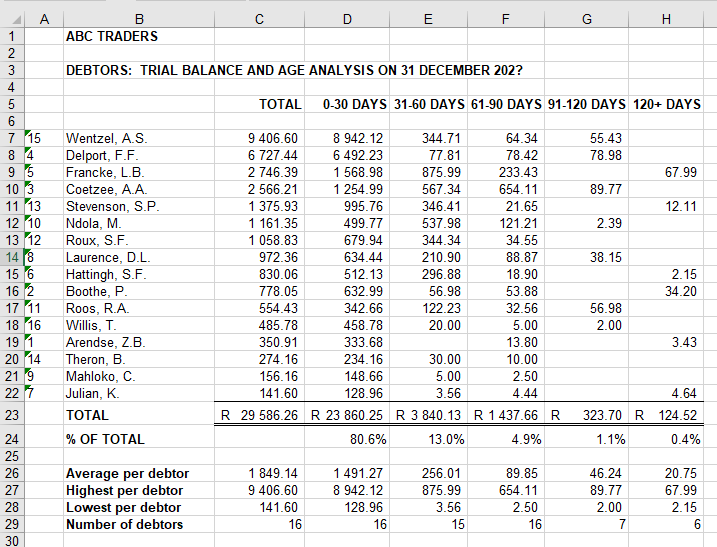
**Activity 1.81: Debtors Answer.xlsx (continued)**

**Sort data according to the numbers in the Total column, from high to low.**

**To the lecturer:**

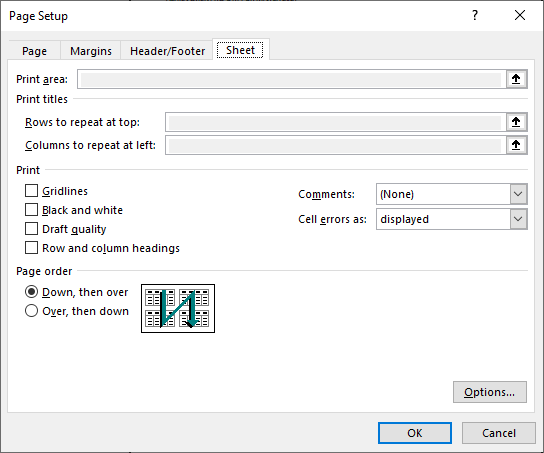
The numbers in column A should be sorted with the names and data; for example, Theron, B. will still be number 13 (column A). The numbers should be sorted with the names and data.

The sheet tab should be named as **DebNum**.



**Activity 1.82: Marks1.xlsx**

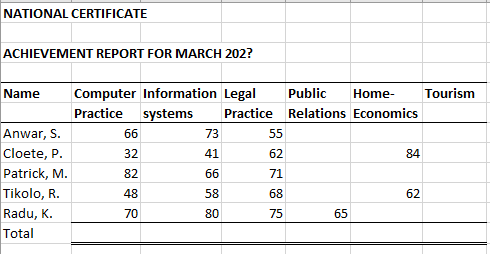
**Create, save, print without row and column headings**



To the lecturer:

To print the worksheet WITHOUT the row and column headings:

*File*, *Print*, *Page Setup*, Row and column heading should NOT be checked.



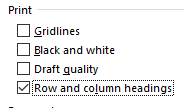
**Activity 1.83: Marks2.xlsx**

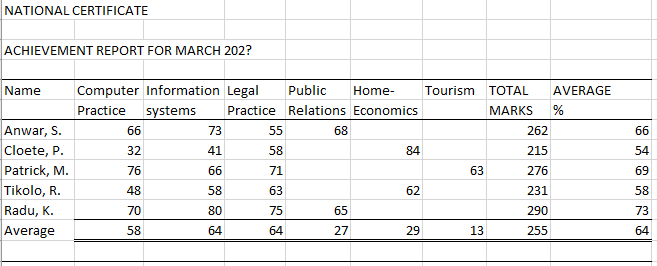
**Edit, check the numbers, add text, add formulas, print with row and column headings**

**To the lecturer:**

Students should check all numbers and change them. New numbers are added.

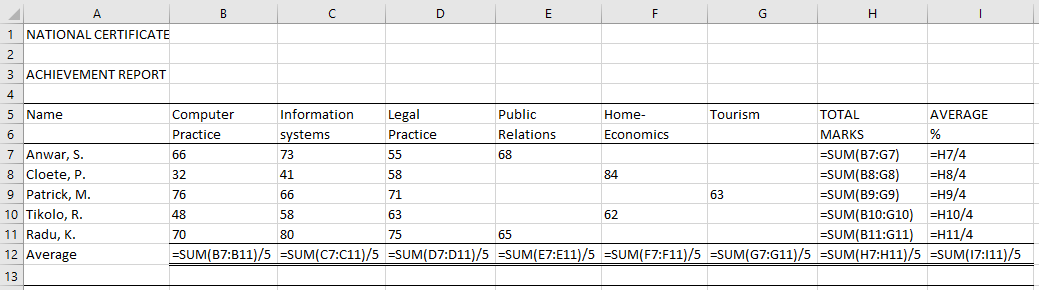
Accuracy is very important or wrong answers will be calculated. Remind the students of this fact.

To print WITH the row and column headings: Row and column heading SHOULD be checked in the *Page Setup* dialog box.



**To the lecturer:**

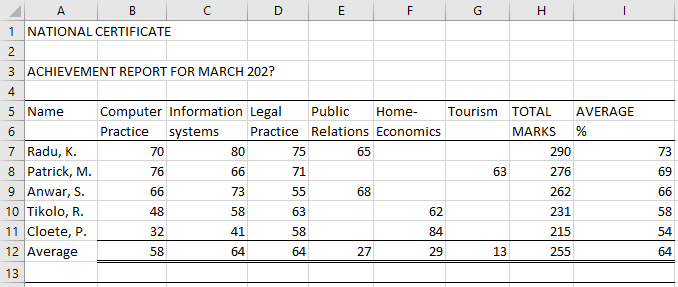
7. Copy the worksheet to a new sheet, then display the formulas on this sheet. The column widths can then be changed to fit in the formulas, and the workbook can then be saved.



**To the lecturer:**

9. Check that the names are sorted with the correct marks next to the name; total marks from high to low. Check for example Tikolo, R for name plus marks.

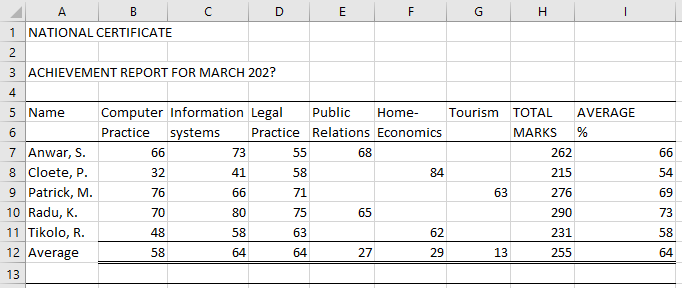
The sheet tab name is **SortTotal**.



**To the lecturer:**

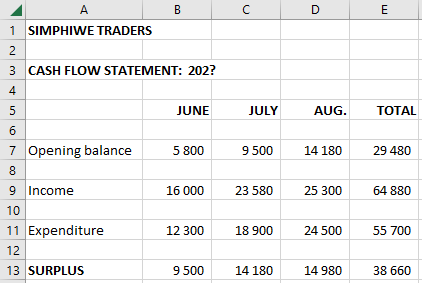
12. Check that the names are sorted with the correct marks next to the name; names in alphabetical order. Check for example Tikolo, R for name plus marks.

The sheet tab name is **SortNames**.



**Activity 1.84:**  **Cash2021.xlsx (or current year in the file name)**

**Integrated: Create, add formulas, format numbers**

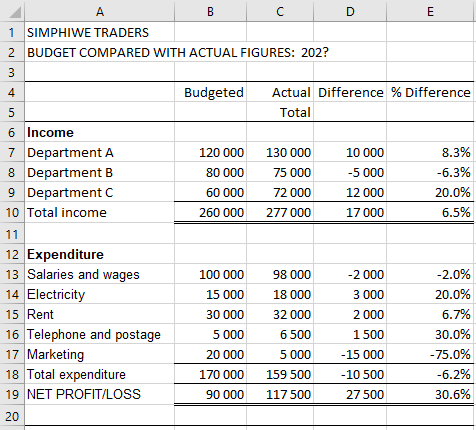


**Activity 1.85:**  **Cash2021.xlsx (or current year in the file name)**

**Integrated: Create, add formulas, format numbers**

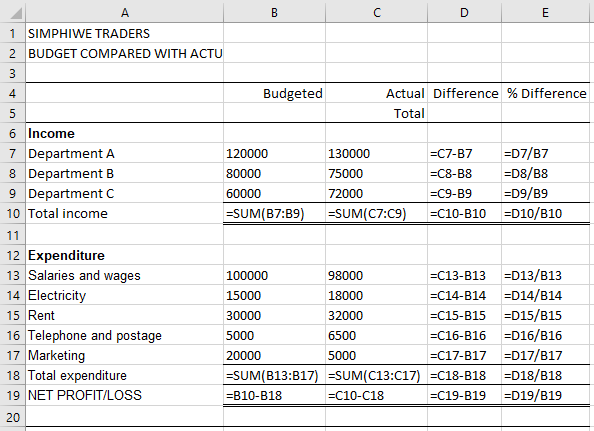
**To the lecturer:**

The sheet tab name is **Budget**.



**To the lecturer:**

The sheet tab name is **Formulas**.



**Activity 1.86:**  **Area1.xlsx**

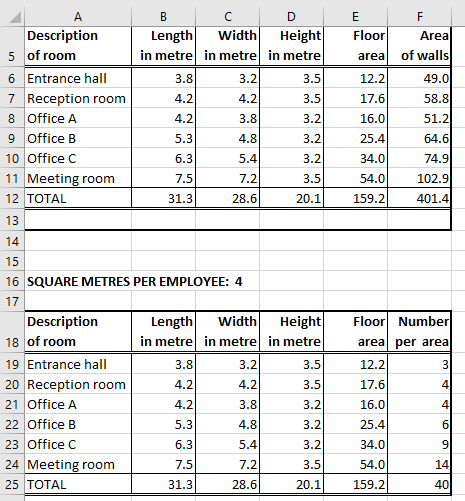
**Integrated: Create, add formulas, format numbers**

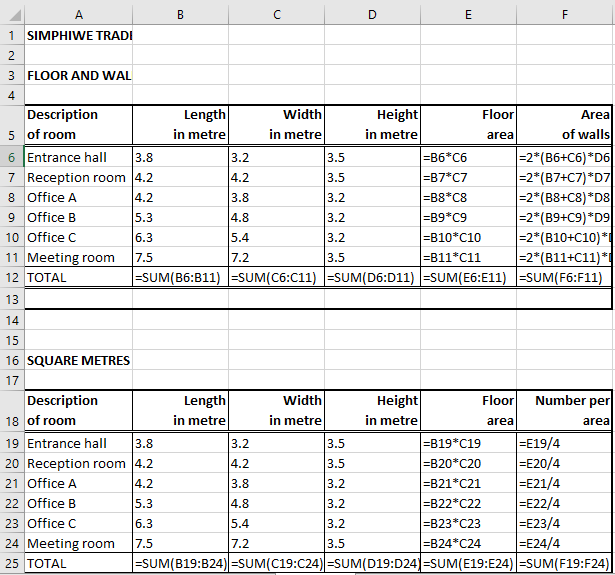
**To the lecturer:**

You can do much more with this exercise, for example use the floor area and different quotations received to compare the costs.

Or, use the wall area to calculate the cost for the painting of the walls.

In the square metre spreadsheet, the number 4 in the heading could be placed in a separate cell. An absolute cell address could then be used in the formula, for example =E19/$D$16. Press F4 to apply the absolute cell address for D16. /$D$16 will stay constant when copying down the column; it is an absolute cell address.





**Activity 1.87:**  **Corona Statistics Worldometer.xlsx**

**Integrated: Computational thinking**

**To the lecturer:**

So much to be discussed, and calculations that can be done in this workbook. Students can give their inputs and discuss it in a computational thinking way. Ask the questions, such as why do Worldometers do all these statistics? Analyse the statistics. Do more calculations.

