

Excel Spreadsheets

Part One

Introduction

Spreadsheets are made up of a series of rows and columns.

The **rows** are numbered and the **columns** have letters at the top.

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									
8									
9									

Then you have **cells**, which is where the column and row meet to make a box.

The **cell** reference is a combination of their column letter and their row number. If you look at the cell pointed out in the above diagram you can see that it is in Column **B**, in Row **2**, and is known as **B2**. All cells are indicated in this way with the column letter coming before the row number.

Each item of information or data is entered into individual cells. You type information into the appropriate cell and press the return key ↵ or tab key ⇨ to set the data into the cell. You can also use the mouse to click on the cells you wish to enter data into. The important point is to remember to use one of these methods to set the data into the cell.



Exercise 1 – Entering Data

The diagram below is an image of the screen where each item of data is in a cell of its own.

The cell reference of the active cell, (selected cell for data entry), is displayed here.

	A	B	C	D	E	F	G	H
1	Dancing Competition							
2								
3		London	Midlands	The North	Wales			
4	Waltz	5	3	6	8			
5	Latin	7	9	8	7			
6	Disco	6	7	9	9			
7	Formation	9	8	8	6			
8	Modern	7	6	5	4			
9	Cabaret	5	8	4	5			
10	Folk	4	6	6	8			
11	Total							

1. Click on cell **A1** and type in **Dancing Competition**. Remember the advice at the beginning of the sheet on how to set the data. You will notice that this stretches across two of the cells. This is OK as this is the title and no data will be entered in the adjoining cell, i.e. **B1**.
2. The next cell you will need to type into is the one that says **London**. If you look at the diagram you can see that this is in cell **B3**. Move the cursor into this cell and type in **London**.
3. Now move into cell **C3** and type in **Midlands**, then in cell **D3** type in **The North**. Continue entering *all* the data into your spreadsheet.

Note: You will see that all **'text'** automatically aligns to the left of the cell, whereas all **'numeric data'** automatically aligns to the right of the cell. We need to adjust the column headings, i.e. **London, Midlands** etc. to line up with the corresponding data.

4. This is done by changing the alignment to the right of the cells. Highlight the cells to be changed (i.e. **B3 to E3**) then with the mouse, click on the **right align button**.

Right align



5. If you look at cell **A7** you will notice the whole of the word **Formation** is not displayed, this is because the standard cell width is too narrow. To change the cell width select cell **A7**, select **Format** from the menu toolbar, then **column** and finally **Autofit selection**.

Exercise 2 – Creating a Formula

We are going to create a **formula** to calculate the total score for the **London** region. Select cell **B11**, which should be adjacent to the text, (label), '**Total**' and at the bottom of the column for '**London**'.

When typing in any formula, (or calculation), it is important to begin your entry with an equals sign **=**. We are going to add together

= +B4+B5+B6+B7+B8+B9+B10

When a range of cells are adjacent to each other, we can shorten our key strokes by entering the cells as a **range**. To do this type in the following

=sum(B4:B10) and press enter

Cell **B11** should now display **43**, but if you look on the **active cell toolbar** the formula you typed in will be displayed.

	B11	= =Sum(B4:B10)						
	A	B	C	D	E	F	G	H
1	Dancing Competition							
2								
3		London	Midlands	The North	Wales	Total		
4	Waltz	5	3	6	8			
5	Latin	7	9	8	7			
6	Disco	6	7	9	9			
7	Formation	9	8	8	6			
8	Modern	7	6	5	4			
9	Cabaret	5	8	4	5			
10	Folk	4	6	6	8			
11	Total	43						
12								
13								
14								
15								

So when entering formula(s) we use the cell references within the formulae, rather than the actual figures. In this way, should an actual figure change, then the calculated figure will be automatically updated.

To demonstrate this, select cell **B5** and change the score from **7** to **9**. You should now see the total figure has change to **45**.



Now move to cell **C11** and type in the formula to add up the total score for the **Midlands**, i.e. **=Sum(C4:C10)**. Continue with this process and obtain the correct totals for **The North** and **Wales**, remembering to change the cell references.

Save your file to your disk, with the name dance competition.

WELL DONE. YOU HAVE COMPLETED YOUR FIRST SPREADSHEET.

Exercise 3 - including data entry, editing data and inserting rows

1. Enter the following information into a spreadsheet.

Grocery List Comparison					
	Checkin	Supasave	Buyrite	Freshfayre	Average Prices
Apples	1.65	1.45	1.48	1.54	
Bacon	2.37	2.43	2.39	2.65	
Bread	0.52	0.49	0.48	0.52	
Butter	0.65	0.54	0.62	0.69	
Coffee	1.69	1.68	1.69	1.72	
Eggs	1.28	1.25	1.27	1.30	
Lamb Chops	2.35	2.33	2.36	2.35	
Teabags	1.79	1.77	1.82	1.80	
Tomatoes	0.89	0.85	0.90	0.90	
Sugar	0.66	0.66	0.65	0.66	
Total					

2. Use the sum formula to calculate the total cost for each store.
(=Sum(first cell ref : last cell ref in range))
3. Use the **average** formula to calculate the average price for apples in all supermarkets. (=Average(first cell ref : last cell ref in range))
4. Format all numeric data to 2 decimal places. Ask a tutor for guidance.
5. The following amendments need to be made
 - a) Change Grocery List Comparison to Supermarket List Comparison
 - b) Change Buyrite to Pricerite
 - c) The cost of bacon at Supersave has gone down to 2.36
 - d) Bread at Pricerite is now 0.50
6. We now want to insert a new item between Butter and Coffee.
 - a) To do this, left click on the row number next to Coffee, (this will highlight the whole row).
 - b) Now right click on the mouse, select **Insert**, a blank row should now be showing.
7. Enter the following information



	Checkin	Supasave	Pricerite	Freshfayre	Average Prices
Cheddar	2.05	2.00	2.10	2.12	

Check to make sure the totals and average prices have changed.
Ask a tutor to check this with you.

8. Following the above instructions, create another new row between Eggs and Lamb chops and insert the following data

	Checkin	Supasave	Pricerite	Freshfayre	Average Prices
Mushrooms	1.99	1.70	1.79	1.90	

Remember to check that the totals and average prices have changed.

9. Print and Save the file as **Grocery**.
10. Close the workbook.

Exercise 4

In this exercise you will:

Writing a formula to subtract the contents of one cell from another.

Totalling the expenses only for each month.

Complete the Cash Flow row by subtracting the **Total Sales** from the **Total Expenses, (Total Sales – Total Expenses = Cash Flow)**.

Step 1

Create the following Spreadsheet making sure all data is visible.

KELLY'S BAKERY				
Quarterly cash flow				
	October	November	December	
TOTAL SALES		16400	15500	13900
EXPENSES				
Shop rental		1200	1200	1200
Utilities		1000	1100	1150
Phone		92	86	130
Salaries		1050	1050	1350
Advertising		750	820	930
Cost of goods		3856	3739	4493
TOTAL EXPENSES				
CASH FLOW				

Step 2

ComputerPals is run by volunteers who provide their own knowledge and experience free of charge. Whilst they endeavour to give the best advice possible there is no guarantee on the information given. ©2018



1. Create a formula to **calculate** the Total Expenses for October.
2. **Replicate** this formula for the Months of November and December.
3. Write a **formula** to give you the Cash Flow for October and **replicate** for the next two months. Complete the Cash Flow row by subtracting the **Total Sales** from the **Total Expenses**, (Total Sales – Total Expenses = Cash Flow).
4. **Format** the numeric data to **2 decimal places**, with **comma separation**.
5. Format the **Total Sales**, **Total Expenses** and **Cash Flow** rows to currency and 2 decimal places, showing the £ symbol.
6. Format the column headings to be **Centre Aligned and Bold**.
7. Save with the file name “**Quarterly Figures**” and Print one copy of the spreadsheet in **landscape**.

Step 3

Reopen the spreadsheet “**Quarterly figures**”.

To the right of the **December** column, create another column, with the heading **Average Sales**, check that this cell is centre aligned and bold.

Format this cell using **Format/Cell/Alignment/Wrap Text**. (Note the change in appearance of this cell).

1. Create a formula to work out the average for **Total Sales** for the 3 months.
2. Replicate this formula for the **Expenses**, **Total Expenses** and **Cash Flow** rows. ((#DIV/0!) Appears on some rows. Ask your tutor to explain).
3. Save and Print one copy in **landscape**.
4. Close the file.

Exercise 5

In this exercise you are going to forecast a 10% increase on the average for **Sales**, **Expenses**, **Total Expenses** and **Cash Flow**

Step 1

Open the file **Quarterly Figures**

To the right of **Average Sales** column, create another column with the heading **Quarterly Total**



1. Wrap the text as in **Step 3** above
2. Create a formula to work out the **Quarterly Sales**
3. Replicate the formula for the items under **Expenses, Total Expenses and Cash Flow**
4. Format the column to 2 decimal places
5. Save and print one copy

Step 2

1. Add a column after the **Quarterly Total** column and name it **Forecast**
2. Create a formula to work out a 10% increase on the average for **Sales** row, (=average multiplied by 1.10).
3. Replicate the formula for the items under **Expenses, Total Expenses and Cash Flow**
4. Format the column to 2 decimal places
5. Format the **Total Sales, Total Expenses and Cash Flow** rows to **Integer Format**, (no decimal places).
6. Save and Print the spreadsheet

Step 3

The spreadsheet looks very plain so you are going to make some changes to its appearance. For this we are going to use the **Auto Format Function**.

Highlight the spreadsheet

Next, click on the **Format Menu**

Then select **Auto Format**

Choose a style you like by scrolling through the options. When you have found one, click on it and then click, **Ok**, (What you see is not necessarily what you get. Click on **print preview** to see actual layout).

Now try changing the formatting by choosing different Auto formats to see how it changes the look of your spreadsheet.

When you are satisfied with your choice, Save the spreadsheet and Print one copy.

Printing

You are now going to print using two of the options available to you in Excel, as well as the standard **Active Sheet** option, which you have already used.



The ones you are going to use are:-

- **Print Selection**
- **Print Area**

Print Selection is printing a highlighted area only.

Practice 1 Print Selection

1. Highlight the area **B3 to D12**.
2. Click on **File** then **Print**.
3. On the print dialogue box under **Print Range** click on **Selection**.
4. Click **Ok** to print the selected area.

If you use this option, the selection is not saved in the system and will return automatically to normal print option.

Print Area is printing a selected part of the worksheet and can be printed repeatedly without being re-applied, i.e. is saved in Printer options.

Practice 2 Print Area

1. Firstly highlight the area **A3 to D9** the selected area will turn blue.
2. Then click on the **File** menu then the **Print Area** then **Set print Area. (notice the area is boarded by dotted line)**
3. Next click on **File** menu and **Print**.
4. On the Print dialogue box increase the **Copies** to 2 then click **OK**.

If you use this option, this will be saved in the Print Area set up. You must remember to cancel if you wish to print normally.

Exercise 6

You are now going to create a spreadsheet for your monthly expenditure.

1. In cell **A1** create the spreadsheet heading **Household Expenditure**.
2. **Create** column headings for January through to December. Start in cell **B2**, then **C2** etc. Ask a member of staff to show you the quick way. Finish this row with **Total**.
3. If all data for each month is not showing, format the width of the columns. Ask a member of staff to show you the quick way.
4. In column **A**, starting in cell **A3**, working downwards, input the following labels: Gas, Electricity, Telephone, Mortgage, Water Rates, Council Tax, Insurance, Car Tax, Petrol, Food, Holidays. Add any others you wish to include. Finish this list with **Total**. Widen the width of this column so that all labels are shown in full.



5. Fill in each cell with a figure as if it was your monthly outgoings. Make them up if you have to.
6. Save this file with the name '**Household Expenditure**'.
7. We now want to enter a formula to find the **Total Expenditure** for **January**. Select the correct cell where the total needs to be entered and use the **sum** formula. Check back to **exercise 1** for help.
Repeat this process for February and March. Ask a member of staff for the quick way to complete this process for the rest of the year, (This is called **replicate**).
8. You are now going to find the annual expenditure for Gas. Select the correct cell where the total needs to be entered and use the **sum** formula. Check your formula is picking up the figures for each month of the year. Ask a member of staff for help or to check the formula is correct.
9. Complete the annual totals for each item of expenditure by using the **replicate** function.
10. Print out a copy of your spreadsheet and Save your file to disk and close the file.

Exercise 7

Reopen the file '**Household Expenditure**'

1. You are now going to insert an additional row of expenditure called '**Savings**'. This should be inserted between '**Food**' and '**Holidays**'.

To do this left click on the row number for the item '**Holidays**'. This will highlight the whole row. Now right click on the mouse and select item '**Insert**'.

2. You will now have a blank row to insert the item '**Savings**'. Enter an amount for each month.

Remember to check to make sure the totals have changed. Ask a tutor to check this with you.

3. Format all numeric data for each month to 2 decimal places, using **Format/Cells/Number**.
4. Format the total figures only with a £ sign and no decimal places, using **Format/Cells/Currency**.
5. Print and Save the spreadsheet and close down the software package.

Exercise 8

You are now going to enter some income data.



1. In '**column A**' leave two blank rows below the **Total Expenditure** and insert a heading '**Income**'
2. Immediately below this, insert some labels for items of income, such as **Salary, Pension, Maintenance, Benefit** followed by **Total**. Use at least two items of income.
3. We need to input the months **January to December** again along with the **Total**. Instead of retyping these you are going to use the **copy** and **paste** functions.
4. To do this, go back to the cell above containing **January**, left click on this cell and keep held down, and then with mouse drag across until all months plus total are highlighted. Now right click on the mouse and select copy.
5. To paste you now need to select the destination cell for January in the income section of the spreadsheet. Left click in this cell to select then right click on mouse and select paste.
6. Enter some income figures for each month and use the **sum** formula to obtain the total annual figures.
7. Now enter a formula to obtain January's total income and use replicate to copy this for each month.
8. In **column A**, below the **Total Income**, create a new label for '**Balance**'. You now need to enter a formula to find the difference between Income and Expenditure. To do this you will add in the **Total Income** and deduct the **total expenditure**, i.e. **=January Total Income cell – Jan Total Expenditure cell**.
9. Replicate this formula for each month.
10. Print and Save the file.

