

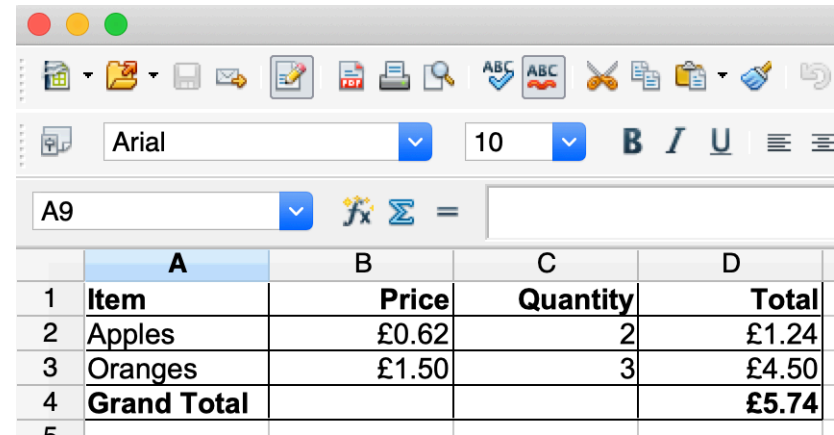
# Spreadsheets

Mendlesham Computer Club

By Giles Godart-Brown

# What is a spreadsheet?

- A spreadsheet is a grid of cells, each cell can contain text, numbers or formulas.
- They are used for 2 main purposes
  - Formulas
  - Tables of information



A screenshot of a spreadsheet application window. The window title bar shows standard OS window controls (red, yellow, green buttons). The menu bar includes options like File, Edit, Format, and Tools. The font settings are set to Arial, size 10. The active cell is A9. The spreadsheet content is as follows:

	A	B	C	D
1	<b>Item</b>	<b>Price</b>	<b>Quantity</b>	<b>Total</b>
2	Apples	£0.62	2	£1.24
3	Oranges	£1.50	3	£4.50
4	<b>Grand Total</b>			<b>£5.74</b>

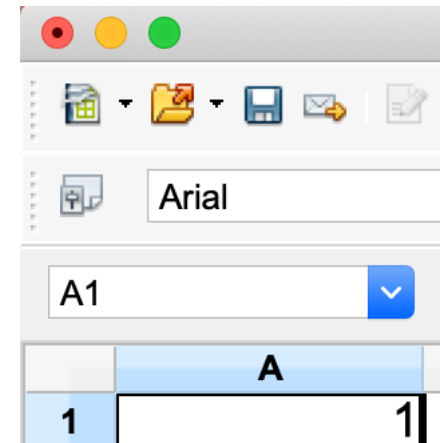
	A	B	C	D	E	F	G
1	<b>First_name</b>	<b>Last_name</b>	<b>Address_1</b>	<b>Address_2</b>	<b>Address_3</b>	<b>County</b>	<b>Postcode</b>
2	Kimberly	Johnson	16 North Park		Mansfield	Nottinghamsh	NG18 4PA
3	Sydney	Farrell	1 Callander Close		Fulwood	Lancashire	PR2 9LP
4	Henry	Hall	12 Brookside		Cleator	Cumbria	CA23 3DU

## Spreadsheet tools

- PC and Mac
  - Microsoft Excel (Paid)
  - OpenOffice Sheets
  - Google Sheets
- Phone or Tablet
  - Google Sheets
  - AO Office, Excel (Paid) and Other apps

# Cells

- Cells are referenced by a column letter followed by a row number, the cell at the top left is A1.
- They contain text, numbers or formulae (e.g. =A1 + B1)
- If you have a cell that you use in a number of formulas, e.g. a rate of exchange, you can name cells in the box just above the top left cell.
- You can specify a range of cells using a : e.g. A1:A5 contains A1, A2, A3, A4 and A5.
- Ranges can be selected by <left mouse> swipe over <release left mouse>
- A spreadsheet may have a number of sheets (pages) with values copied between them.



# Cell formatting

- Text and numbers typed into a cell can be formatted in the same way as in the Open Office text editor.
- There are some additional options that are changed by selecting the cells, rows or columns you want to format and choosing <format><cells> from the top menu bar, this has tabs for number formatting, fonts. alignment, borders and background.
  - The number format has several options for money fields (e.g. include £ sign)

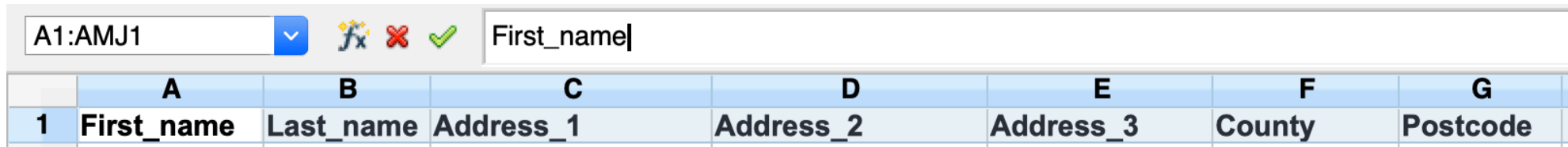
# Create an address book

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# A simple address book spreadsheet

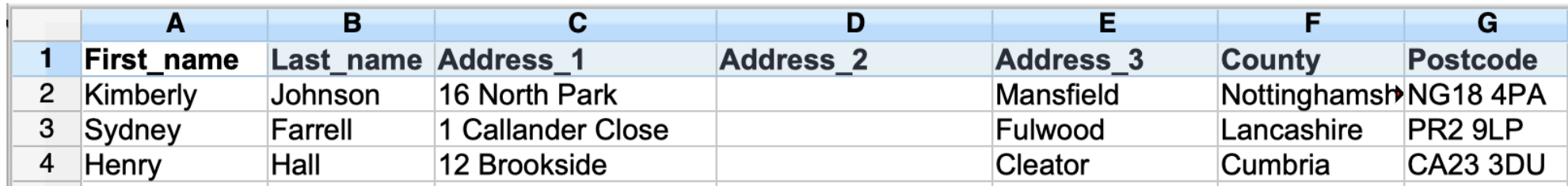
- Create a new spreadsheet in open office or Excel
- In the first row type some column headings e.g.



A screenshot of an Excel spreadsheet. The active cell is A1:AMJ1, containing the text 'First\_name'. The spreadsheet has columns A through G. Row 1 contains the following headers: A: First\_name, B: Last\_name, C: Address\_1, D: Address\_2, E: Address\_3, F: County, G: Postcode.

	A	B	C	D	E	F	G
1	First_name	Last_name	Address_1	Address_2	Address_3	County	Postcode

- Then add the names to subsequent rows



A screenshot of an Excel spreadsheet showing data rows. The spreadsheet has columns A through G. Row 1 contains the headers: A: First\_name, B: Last\_name, C: Address\_1, D: Address\_2, E: Address\_3, F: County, G: Postcode. Rows 2, 3, and 4 contain the following data:

	A	B	C	D	E	F	G
1	First_name	Last_name	Address_1	Address_2	Address_3	County	Postcode
2	Kimberly	Johnson	16 North Park		Mansfield	Nottinghamsh	NG18 4PA
3	Sydney	Farrell	1 Callander Close		Fulwood	Lancashire	PR2 9LP
4	Henry	Hall	12 Brookside		Cleator	Cumbria	CA23 3DU

- Save it somewhere you can remember.

# Sorting and filtering

## Sorting

- Select the cells or rows you want to sort, by wiping over with the mouse.
- Select <data><sort> from the top bar
- Chose the column to sort on and type of sort.

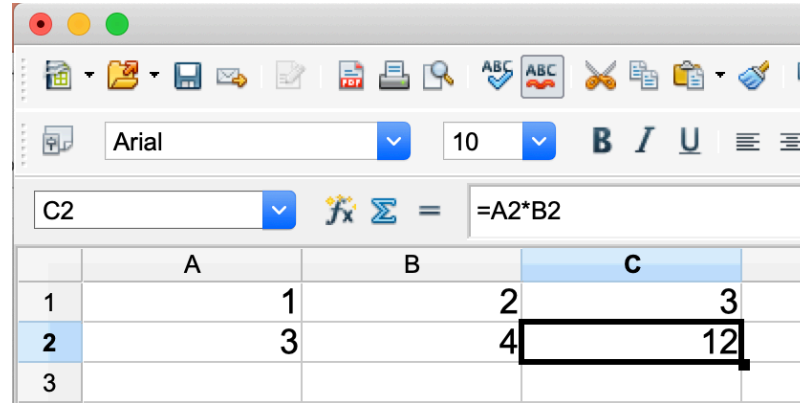
## Filtering

- If you want to quickly to see the rows that match a particular criterion, e.g. all the rows that contain “Roses”, select the rows you are interested in as above, then select <Data><filter><standard filter> and then fill in the criteria.

Download Address book demo to try these

# Formulas

# Formulas



- Typing an = sign at the start of a cell tells the spreadsheet that this cell contains a formula.
- If you wanted the contents in C1 to be A1 added to B1, you would type `=A1+B1` into cell C1, then if you change A1 or B1, the contents of C1 will automatically recalculate to reflect the change.
- Similarly, if A2 was the price per unit and B2 was the number of units, typing `=A2*B2` into C2 would make C2 contain the total cost of these items.

# Common formulas

Formula	Result
<b>=A1+B1</b>	A1 is added to B1
<b>=A1-B1</b>	B1 is subtracted from A1
<b>=A1*B1</b>	A1 is multiplied by B1
<b>=A1/B1</b>	A1 is divided by B1

# A simple shopping list

- Create a new spreadsheet in OpenOffice and type the column headings in the top row

	A	B	C	D
1	Item	Price	Quantity	Total

- Input an item, price and quantity on the second row

	A	B	C
1	Item	Price	Quantity
2	Apples	£0.62	2

- In cell D2 type  $=B2*C2$  and it will calculate the total for you

	A	B	C	D
1	Item	Price	Quantity	Total
2	Apples	£0.62	2	£1.24

D2  $=B2*C2$

# Create a shopping list

# Functions

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# Commonly used functions

Formula	Result
<b>=sum(A1:A5)</b>	A1+A2+A3+A4+A5
<b>=round(A1/B1;2)</b>	A1 is divided by B1 and rounded to 2 decimal places
<b>=average(A1:A5)</b>	The average of the numbers A1 to A5
<b>=max(A1:A5)</b>	Minimum of the numbers A1 t A5
<b>=min(A1:A5)</b>	Maximum of the numbers A1 t A5

The full list of functions is at; [https://wiki.openoffice.org/wiki/Documentation/How\\_Tos/Calc:\\_Functions\\_listed\\_by\\_category](https://wiki.openoffice.org/wiki/Documentation/How_Tos/Calc:_Functions_listed_by_category)

## Example using functions

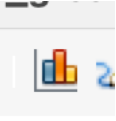
- Download and open the greenhouse temperatures demo
- Use the functions to find the max, min and average temperature

# Graphs

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# Create an OpenOffice spreadsheet graph

- Open the greenhouse temperatures
- Select the numbers you want to chart including the column titles
- Click on the chart icon The icon shows a small bar chart with three bars in blue, orange, and green, next to a blue question mark.
- Follow the wizard
  - Chose chart type e.g. line
  - Data range, this should already have the range you selected at the start
  - Data series – take defaults
  - Add the titles

## Create an Excel spreadsheet graph

- Open the greenhouse temperatures
- Select the numbers you want to chart including the column titles
- Select Insert>Chart and chose the graph format you would like (pie, bar etc...)
- Once the graph has been created, click on the individual elements to make changes