

Spreadsheets

Spreadsheets

	Module Goals	1
Introduction		2
	What is a Spreadsheet?	2
Section 1	Using the Application	3
	1.1. Working with Spreadsheets	3
	1.2. Enhancing Productivity	11
Section 2	Cells	15
	2.1. Inserting and Selecting Data	15
	2.2. Editing and Sorting	17
	2.3. Copying, Moving and Deleting	21
Section 3	Managing Worksheets	24
	3.1. Rows and Columns	24
	3.2. Worksheets	28
Section 4	Formulas and Functions	32
	4.1. Arithmetic Formulas	32
	4.2. Functions	35
Section 5	Formatting	41
	5.1. Numbers and Dates	41
	5.2. Cell Content	43
	5.3. Alignment and Border Effects	47
Section 6	Charts	51
	6.1. Creating Charts	51
	6.2. Editing Charts	56
Section 7	Preparing Outputs	60
	7.1. Setup	60
	7.2. Checking and Printing	64

Section 2 ▶ Cells

A spreadsheet is a grid comprising rows and columns. The intersection between a row and a column is called a **cell**. Cells are named with the grid reference referring to its location; this is called a **cell reference**. For example, the cell named A1 refers to the cell positioned in column A and row 1. Multiple cells are referred to as a **cell range**. An example of a cell range is A1:A12 (a cell range is separated by a colon).

2.1. Inserting and Selecting Data

Data refers to text, dates and numerical figures. Each of these data items can be entered into a cell and then selected so that editing or formatting can be performed.

- In this section, you will learn about the following:
- Understanding that a cell in a worksheet should contain only one element of data (for example, first name detail in one cell, surname detail in adjacent cell).
 - Recognising good practice in creating lists: avoiding blank rows and columns in the main body of the list, inserting a blank row before the Total row and ensuring cells bordering list are blank.
 - Entering a number, date or text in a cell.
 - Selecting a cell, range of adjacent cells, range of non-adjacent cells or an entire worksheet.

2.1.1. Good Practice

A cell should only contain one element of data, such as a first name in one cell and a last name in an adjacent cell. This enables the user to edit or format cell elements individually, e.g. with different fonts, sizes and styles, or sort columns in a specified order.

	A	B
1	First Name	Last Name
2	Anne	Jones
3	Bill	Smith

When creating numerical lists, it is good practice to avoid creating blank rows and columns in the main body of the list. This is because a blank row or column can affect formula results. However, to enhance clarity, it is good practice to insert a blank row before a Total row to separate the main list from the formula result. Any cells bordering a numerical list used in a calculation should remain blank. This ensures that the data and the results are clearly defined and can be easily identified and understood.

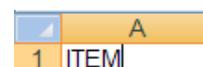
JUMBLE SALE	
ITEM	PRICE
Dress	£2.99
Vase	£1.50
Decanter set	£3.45
TOTAL	£7.94

2.1.2. Entering Data

The default position for text within a cell is left aligned. The default position for numbers and dates is right aligned. Numbers will not display decimal precision unless formatted to a specific number of places. For example, when you enter 1.50, it will display as 1.5.

To enter text, numbers or dates into a cell, do the following:

- Click a cell to select it and then enter text or a number directly into the cell.
- Press **Enter** to complete the entry.



Alternatively, position the cursor in the **Formula bar** and enter the data.

Press **Enter** to complete the entry.

2.1.3. Selecting Cells

A cell must be selected before data can be entered, edited or formatted. This may entail selecting a single cell or a range of adjacent or non-adjacent cells.

To select a cell or cells, do the following:

Single Cell

- Click a cell to select it. A dark border displays around a selected cell.

A	B

Adjacent Cell Range

- Select the first cell and then, holding down the left mouse button, drag over the cells to be selected and release. The first cell in the selected range appears to be unselected.

ITEM	PRICE	
Dress	£2.99	
Vase	£1.50	
Decanter Set	£3.45	

Non-Adjacent Cell Range

- Select the first cell or range of cells and, holding down the **CTRL** key, click the cell or drag over the cells to be selected and release.

	A	B	C
1	ITEM	PRICE	DONATED BY:
2	Dress	£2.99	Mrs Jones
3	Vase	£1.50	Mr Brown
4	Decanter Set	£3.45	Miss Smith

Entire Worksheet

- Select the button on the top left of the spreadsheet (above row number 1 and to the left of column A). All cells in the worksheet will be selected.

Alternatively, press **CTRL + A**.

	A
1	ITEM

Click away from a cell range to remove the selection.

Practice Sequence

A spreadsheet containing the data shown below is also provided on CD for your use. Note that the spreadsheet refers to profits from Jumble Sales.

- 1 Open Excel and then open the **sale** spreadsheet.

2 Check the data on the right has been inserted in the correct columns and rows (don't worry if the data overlaps; you will adjust column widths later).

	A	B
1	PROFITS 1ST QTR 2008	
2	EXPENDITURE	
3	Transport costs	15
4	Venue hire	50
5	Refreshment Costs	20
6	Other expenses	50
7	Total Expenditure	
8	SALES	
9	Entrance Fees	50
10	Sales of goods	650
11	Refreshment Sales	60
12	Total Sales	

- 3 Select cells A1 and cell B3.

- 4 Select the cell range A1:B12.

- 5 Remove the selection.

- 6 Close the **sales** spreadsheet.

2.2. Editing and Sorting

In this section, you will learn about the following:

- Editing cell content and modify existing cell content.
- Using the undo and redo commands.
- Using the search command for specific content in a worksheet.
- Using the replace command for specific content in a worksheet.
- Sorting a cell range by one criterion in ascending or descending numeric order and ascending or descending alphabetic order.

2.2.1. Editing Cells

Cell content can be edited or modified by positioning the cursor within a cell and making modifications, such as entering characters or deleting characters, or by selecting a cell and editing the contents in the Formula Bar.

To edit or modify cell content, do the following:

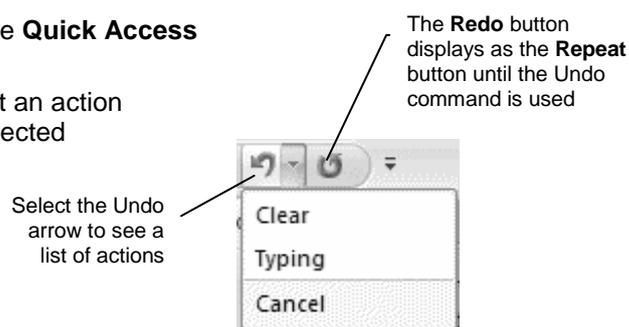
- Double-click a cell to position the cursor within the cell (the cursor will appear wherever the insertion point is positioned when you double-click).
Alternatively, select a cell and then position the cursor on the Formula Bar either in front, in the middle or behind the cell contents.
- Delete characters by positioning the cursor in front of a character and pressing **Delete** (the **Delete** key deletes characters to the right of the current cursor position) or by positioning the cursor behind a character and pressing **Backspace** (the **Backspace** key deletes characters to the left of the current cursor position).
- Enter characters by positioning the cursor in the correct position and then typing.
- To replace the whole contents of a cell, select the cell and type over existing contents.

2.2.2. Using the Undo and Redo Commands

If a mistake is made when entering, editing or deleting data, it can be corrected by using the undo button. To redo the action, the redo button can be used.

To use undo and redo, do the following:

- To undo an action, click the **Undo** button from the **Quick Access Toolbar** (or press **CTRL + Z**).
- To see a list of actions, click the arrow and select an action from the list. Any actions that exist before the selected action will also be undone.
- To redo an action, click the **Redo** button from the **Quick Access Toolbar** (or press **CTRL + Y**).



 The Redo button displays as a repeat button, until the Undo button is utilised. When the Undo button is used, the Redo button becomes active.

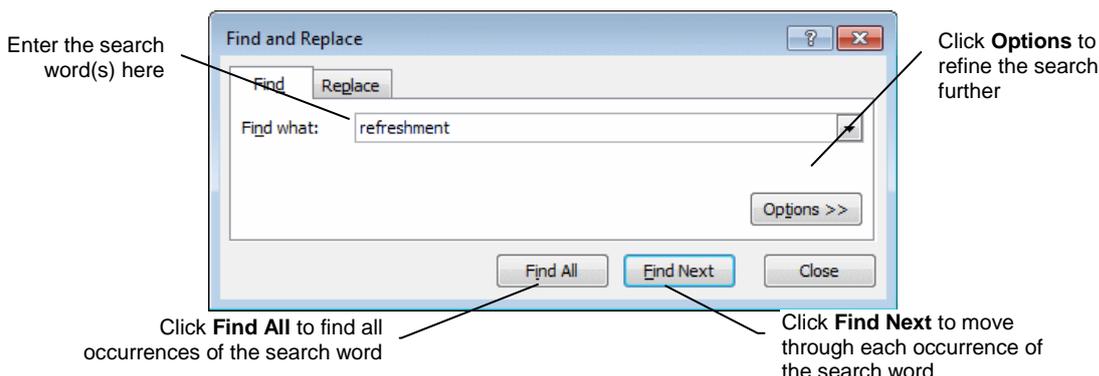
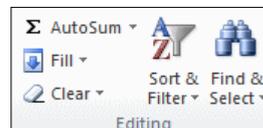


2.2.3. Searching

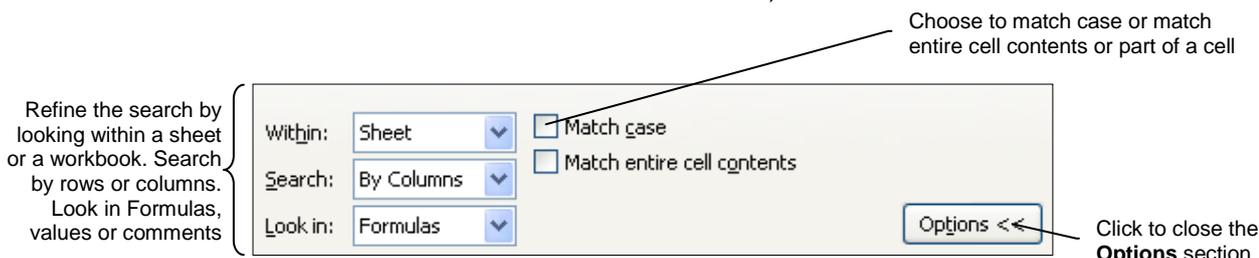
Finding information in a spreadsheet can be time consuming if it is a lengthy spreadsheet containing lots of data. Using the Search command facilitates the process as it will find specific information throughout the spreadsheet in one action.

To search for information, do the following:

- On the **Home** tab, click the **Find & Select** command from the **Editing** group (or press **CTRL + F** to open the **Find** window).
- Select **Find** from the menu.
The **Find** window opens.
- Enter the search word or phrase into the **Find what** box.



- Select the **Options>>** button to refine the search further.
 - ▶ In this section of the **Find** window, you can do the following:
 - ▶ Search within a sheet or a workbook (if the workbook contains many sheets).
 - ▶ Search by rows or columns.
 - ▶ Look in formulas, values or comments.
 - ▶ Match the case of search word (upper/lower case)
 - ▶ Match entire cell contents or only part of a cell (e.g. if you select this checkbox and enter **Refreshment** as the search word it will find cells containing the word **Refreshment** but will not find **Refreshment Costs** or **Refreshment Sales**).



- Press **Find Next** to find the first occurrence of the search word(s) or **Find All** to find all occurrences of the search word(s).

Book	Sheet	Name	Cell	Value	Formula
sale data entry.xlsx	Sheet1		\$A\$5	Refreshment Costs	
sale data entry.xlsx	Sheet1		\$A\$11	Refreshment Sales	

2 cell(s) found

Find All will list all occurrences of the search word in the sheet (or workbook if this option is selected)

- Click **Close** to close the **Find** window.

2.2.4. Replacing

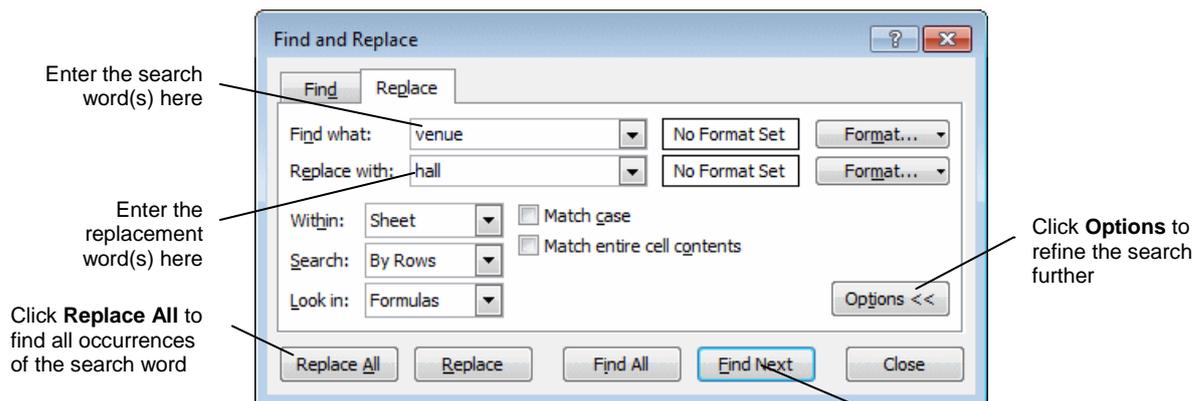
It can be time consuming to replace the contents of multiple cells with another value if the spreadsheet is lengthy and contains many rows and columns of data. If the search word appears many times, it is easier to use the Replace command to replace the contents of the cell with a specified value throughout the spreadsheet.

To replace the contents of cells, do the following:

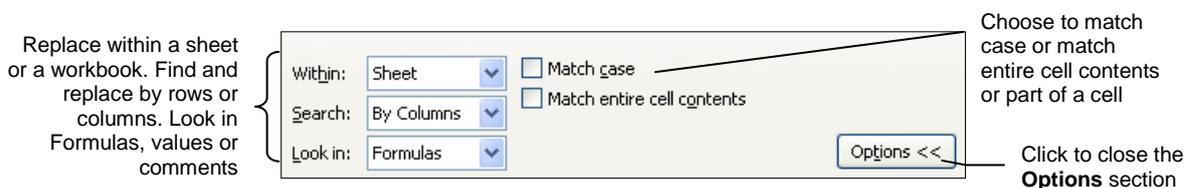
- On the **Home** tab, click the **Find & Select** command from the **Editing** group (or press **CTRL + H** to open the **Replace** window).

- Select **Replace** from the menu.

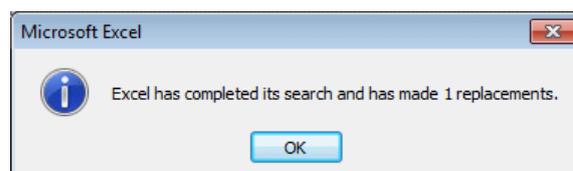
The **Replace** window opens.



- Enter the search word or phrase into the **Find what** box.
- Enter the replacement word in the **Replace with** box.
- Select the **Options>>** button to refine the search further.
- In this section of the **Find** window, you can do the following:
 - ▶ Search within a sheet or a workbook (if the workbook contains many sheets).
 - ▶ Search by rows or columns.
 - ▶ Look in formulas, values, or comments.
 - ▶ Match the case of the entered replacement word (upper/lower case).
 - ▶ Match entire cell contents or only part of a cell (e.g. if you select this checkbox and enter **Refreshment** as the search word it will find and replace cells containing only the word **Refreshment** but will not find and replace the cells containing **Refreshment Costs** or **Refreshment Sales**).



- Press **Find Next** to find the first occurrence of the search word(s) and then press **Replace** or select **Replace All** to replace all occurrences of the search word(s) with the replacement word.
- When **Replace All** is selected, a message window opens informing you of the number of replacements that have been made.
- Click **OK**.
- Click **Close** to close the **Replace** window.



2.2.5. Sorting

Data can be sorted to display in ascending or descending order in either numerical or alphabetical order. See the examples below.

Alphabetical (Ascending, A–Z)

Clothes
Ornaments
Shoes
Toys

Alphabetical (Descending, Z–A)

Toys
Shoes
Ornaments
Clothes

Numerical (Ascending, smallest–largest)

£1.99
£2.50
£2.99
£3.00
£3.50

Numerical (Descending, largest–smallest)

£3.50
£3.00
£2.99
£2.50
£1.99

To sort data, do the following:

Numerical Order

- Select the numerical data to be sorted (you must also include adjacent cells in the selection if these cells are to be sorted alongside the numerical data).
- From the **Home** tab click **Sort & Filter** from the **Editing** group.
- Select **Sort Smallest to Largest** for ascending order or **Sort Largest to Smallest** for descending order.



Alphabetical Order

- Select the text to be sorted (you must also include adjacent cells in the selection if these cells are to be sorted alongside the text).
- From the **Home** tab, click **Sort & Filter** from the **Editing** group.
- Select **Sort A to Z** for ascending order or **Sort Z to A** for descending order.



 The Sort & Filter command can also be selected from the Data tab (rather than the Home tab).

Practice Sequence		
1	Open Excel and the spreadsheet called sale .	<input type="checkbox"/>
2	Edit the title in cell A1 so that it reads PROFIT 1st QTR JAN – MAR 2008 .	<input type="checkbox"/>
3	Modify cell A8 to read INCOME .	<input type="checkbox"/>
4	Using the Search and Replace command, find all occurrences of the word Venue and replace with the word Hall . Ensure that the case is matched.	<input type="checkbox"/>
5	Select the cell range A3:B6 (start the selection from B6 and drag backwards up to A3 so that the Sort command identifies that it is the numerical data that should be sorted).	<input type="checkbox"/>
6	Sort this cell range in descending order (largest–smallest).	<input type="checkbox"/>
7	Select the cell range A9:B11 (start the selection from cell A9 so that the Sort command identifies that the sort should be performed on the text).	<input type="checkbox"/>
8	Sort this cell range in ascending order (A–Z).	<input type="checkbox"/>
9	Save and close the sale spreadsheet.	<input type="checkbox"/>