

# **MS Excel 2010**

## **Analysing Data Using Formulae**

**& Pivot Tables** 

**User Guide** 

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## INTRODUCTION

This guide covers the analysis of data using formulae, functions & pivot tables, within **Excel 2010**. To obtain maximum benefit from attending this training session, you should have attended an introductory course or be an existing user of **Excel**.

At the end of this course, each delegate will have an understanding of several key functions used in data analysis & will be able to create formulae, use functions, sort & filter data & analyse data using pivot tables.

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## **Moving Around Your Spreadsheet**

A spreadsheet is made up of a matrix of columns and rows, into which text, dates and numbers can be entered. Excel contains ;

- 16,384 Columns.
- 1,048,576 Rows.

When working in your spreadsheet you can move around by use of both the mouse and the keyboard. You can also move around the spreadsheet using the scroll bars or by using the following keyboard strokes ;

Moving On A Sheet				
Arrow Keys	Move up/down/left/right as required.			
Page Up/Page Down	Moves one screen up or down.			
Tab / Shift + Tab	Moves one cell left or right.			
F5	Moves to the cell number that you enter.			
Ctrl + Home	Moves to cell A1.			
Ctrl + Left Arrow	Moves to the cell furthest to the left hand of the spreadsheet that contains data.			
Ctrl + Right Arrow	Moves to the cell furthest to the right hand of the spreadsheet that contains data.			
Ctrl + Up Arrow	Arrow Moves to the cell furthest to the top of the spreadsheet that contains data.			
Ctrl + Down Arrow	Moves to the cell furthest to the bottom of the spreadsheet that contains data.			
	Selecting Cells			
Shift + Left / Right Arrow Keys	Selects cells 'one at a time' to the left / right.			
Shift + Up / Down Arrow Keys	Selects cells 'one at a time' up / down.			
Ctrl + Shift + Left / Right Arrow Keys	Selects cells to the end of a 'block of data' in a row.			
Ctrl + Shift + Up / Down Arrow Keys	Selects cells to the end of a 'block of data' in a column.			

Moving Between Worksheets								
Ctrl + Page Up	Ctrl + Page UpMoves to the previous Worksheet.							
Ctrl + Page Down	Moves to the next Worksheet.							
Right Click Mouse Over Sheet Navigation Arrows	100007MMLucas500Product110008MJBolam500Product120009ME.A.Bartram501Product13Jan 2012er502Main Of14Feb 2012r500Product15March 2012501Product16Q1 Summary 2012es501Product17Employees500Product18Product Specificationn500Product19Orders501Product20Item Nos502Main Of21Find Duplicates500Product23Image Natrixstone501ProductReadyImage NatrixStone501Product							
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Click `Insert Worksheet' icon (circled)	A       B       C       D       E       F       G       H       I         1       Jan       Feb       Mar       Apr       May       Jun       1         2       Excel       12       10       8       9       12       15       15         3       Word       4       5       6       7       8       4         4							

## **CONDITIONAL FORMATTING**

Excel can be used to highlight data that meets conditions that you specify. To highlight formula results or other cell values that you want to monitor, you can identify the cells by applying 'Conditional Formats'.

#### **Setting A Conditional Format**

For instance, in an Orders data set, Excel can apply red shading to the cell, if the 'Total Price' is greater than  $\pounds$ 1,000 or blue shading if the 'Total Price' is less than  $\pounds$ 1,000. To apply conditional formats to cells ;

- 1 Select the cells you want to format. In this example, select the 'Total Order' cells only.
- 2 Select 'Conditional Formatting' from the 'Home' tab.



- 3 Select 'Highlight Cell Rules'.
- 4 Then select an appropriate option e.g. 'Greater than...

Greater Than		? ×
Format cells that are GREATER THAN:		
1000	with	Light Red Fill with Dark Red Text Light Red Fill with Dark Red Text Yellow Fill with Dark Yellow Text Green Fill with Dark Green Text Light Red Fill

- 5 Enter the amount in the first dialogue box & then select the drop down option in the second dialogue box, to set the appropriate formatting options. Use 'Custom Format' if you want to set your own formatting options.
- 6 Select the font style, font colour, underlining, borders, shading, or patterns you want to apply.
- 7 To add another condition, repeat the steps above.
- 8 To review the conditional formats applied to the cells, use 'Conditional Formatting....Manage Rules' from the 'Home' tab.
- 9 Here you can create new rules or modify / delete existing rules.

(	Conditional Formatting Rules	Manager		? ×					
ſ	Show formatting rules for: Current Selection								
	New Rule	Rule X Delete Rul	e 🔺 💌						
l	Rule (applied in order shown)	Format	Applies to	Stop If True 🔺					
	Cell Value < 1000	AaBbCcYyZz	=\$I\$2:\$I\$715						
	Cell Value > 1000	AaBbCcYyZz	=\$I\$2:\$I\$715						
				-					
			ОК С	ose Apply					

## **Using Formulae As Conditions**

In the previous example, the cell colour in a single column (Total Order) was changed. In order to apply the cell colour all the way across a row, then a formula could be used.

- 1 Select the cells you want to format (the whole data set).
- 2 Select 'Conditional Formatting....New Rule' from the 'Home' tab.
- 3 Select 'Use a formula to determine which cells to format'.
- 4 Enter a suitable formula & format for the cells & click 'OK'.

New Formatti	ng Rule	? ×
Select a Rule T	Гуре:	
► Format al	cells based on their values	
► Format or	ly cells that contain	
► Format or	ly top or bottom ranked values	
Format or	ly values that are above or below average	
Format or	nly unique or duplicate values	
Use a form	nula to determine which cells to format	
Edit the Rule D	Description:	
F <u>o</u> rmat va	lues where this formula is true:	
=\$I2>1000		<b>E</b>
Preview:	AaBbCcYyZz	<u>F</u> ormat
	ОК	Cancel

5 In this example, the formula would be = \$I2 > 1000.

#### **Style Sets**

Data Bars, Colour Scales & Icon Sets can also be used to format cells. In the example below, 'Total Prices' can be marked with 'Traffic Lights' to indicate whether the Total is less than  $\pounds 250$ , between  $\pounds 250 - \pounds 1,000$  or over  $\pounds 1,000$ .

New Formatting Rule
Select a Rule Type:
► Format all cells based on their values
► Format only cells that contain
► Format only top or bottom ranked values
<ul> <li>Format only values that are above or below average</li> </ul>
► Format only unique or duplicate values
► Use a formula to determine which cells to format
Edit the Rule Description:
Format all cells based on their values:
Format Style: Icon Sets  Reverse Icon Order
I <u>c</u> on Style:
Display each icon according to these rules:
Ico <u>n V</u> alue <u>Type</u>
when value is >= 💌 1000  Number 💌
✓         when < 1000 and
when < 250
OK Cancel

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1	A	В	С	D	E	F	G	Н	I
1	Order No.	Item No.	Description	Item Type			Unit Price (£)	VAT (£)	Total Price (£)
2	A537	SS-5533	Correction Fluid	Stationery	Clavering Stationers	6	£0.37	£0.07	£2.66
3	A001	PO-6544	Fax Rolls	Paper	Duncan & Mews	8	£4.38	£0.88	£42.05
4	A267	PO-6544	Fax Rolls	Paper	Duncan & Mews	8	£4.38	£0.88	£42.05
5	A268	BH-7490	Hole Punches	Stationery	Hall Stationers	19	£20.98	£4.20	£478.34
6	A538	QW-6429	Black Ink Cartridges	Printer Supplies	Viking Direct	2	£143.78	£28.76	£345.07
7	A539	GD-6555	Laptops	Computer	Dell	1	£499.98	£100.00	£599.98
8	A002	CX-8654	Photo Paper	Paper	PC World	7	£11.43	£2.29	£96.01
9	A269	CX-8654	Photo Paper	Paper	PC World	7	£11.43	£2.29	£96.01
10	A540	IO-4399	Roll Transparent Tape	Office Furniture	Camerons	19	£0.98	£0.20	£22.34
11	A003	VD-2315	Cash Register Rolls	Paper	Fitzerald & Co	4	£5.67	£1.13	£27.22
12	A270	VD-2315	Cash Register Rolls	Paper	Fitzerald & Co	4	£5.67	£1.13	£27.22
13	A541	IO-4399	Roll Transparent Tape	Office Furniture	Duncan & Mews	9	£0.50	£0.10	£5.40
14	A542	DF-5643	Packs CD-RW	Computer Supplies	Dell	50	£12.99	£2.60	£779.40
15	A004	KL-7699	Highlighter Pens	Stationery	Viking Direct	7	£0.47	£0.09	£3.95
40	1071	10. 3000	or the top top		server and the	_	CO 47	co. oo	CD 05

## Identifying All Cells With Conditional Formatting

If your worksheet has one or more cells with a conditional format, you can quickly locate them so that you can change or delete the conditional formats. You can use the 'Go To Special' command, to either find only cells with a specific conditional format or find all cells with conditional formats.

- 1 Click any cell without a conditional format.
- 2 In the 'Home' tab, click the drop down arrow under 'Find & Select'.
- 3 Select 'Conditional Formatting'.



4 Any Conditionally formatted cells will be selected.

## **Editing / Deleting Conditions**

To delete a condition ;

- 1 Select your 'Conditionally Formatted' cells.
- 2 Select 'Conditional Formatting....Manage Rules' from the 'Home' tab.

Conditional Formatting Rules	Manager			?	×
Show formatting rules for: Cu	rrent Selection	•			
Mew Rule	Rule X Delete Rul	le 🔺 💌			
Rule (applied in order shown)	Format	Applies to		Stop If True	*
Icon Set	<b>O O</b>	=\$I\$2:\$I\$715	<b>E</b>		
					-
		ОК	Close	Apply	

- 3 Select the format to delete & click 'Delete Rule'.
- 4 Edit a Conditional Format, in the same manner, by clicking 'Edit Rule'.

## SORTING AND FILTERING DATA

#### Sorting A List By A Single Column

To sort data in ascending / descending order based on values in a single column ;

1 Click a cell in the column you want to 'sort'.

## DO NOT HIGHLIGHT MULTIPLE CELLS

2 Click the 'Sort Ascending' or 'Sort Descending' icon on the 'Data' tab.

#### Sorting A List By Multiple Columns

If you require a more complicated sorting procedure i.e. you want to sort by more than one column, you will need the 'Sort' icon on the 'Data' tab. When you sort by more than one column, the rows with duplicate items in the first column are sorted according to the second column you specify. To do this ;

- 1 Click a cell in the column you want to `sort'.
- 2 Click the 'Sort' icon on the 'Data' tab.

Sort				? ×
⊉ <u>al A</u> dd Le	evel X Delete Level	Copy Level	Options	☑ My data has <u>h</u> eaders
Column		Sort On	Order	
Sort by	Dept 👻	Values	<ul> <li>A to Z</li> </ul>	-
	,			
				2%
				OK Cancel

- 3 Select the 1<sup>st</sup> sort options you want e.g. above, list is sorted by 'Dept'.
- 4 Click 'Add Level'.

Sort				? ×
⊉ <sub>à</sub> i <u>A</u> dd	Level X Delete Level	Copy Level	ns	My data has <u>h</u> eaders
Column		Sort On	Order	
Sort by	Dept 💌	Values 💌	A to Z	•
Then by	Full Name 💌	Values 💌	A to Z	•
				OK Cancel

5 Repeat the selection process, for the  $2^{nd}$  level.

The list above will be sorted by 'Dept' first, then within each department, by 'Full Name'.

Sort				? ×
⊉ <sub>à</sub> <u>i</u> <u>A</u> dd	Level X Delete Level	Copy Level	ptions	☑ My data has <u>h</u> eaders
Column		Sort On	Orde	r
Sort by	Dept 💌	Values	▼ A to	Z 💌
Then by	Full Name 💌	Values		Z 🔹
Then by	Clock No.	Values		Z 🔹
				OK Cancel

6 Potentially, extra levels may be required, until you obtain the 'Sort' order you require.

## Sorting A List By Colour

If you have manually or conditionally formatted a range of cells, by cell colour or font colour, you can also sort by these colours. You can also sort by an icon set created through a conditional format.

	<b>, 19 • (</b> 2 •   <del>-</del>		_	Exce	Interm	ediate Exercise	- Microsoft	Excel	_	_		x
F	ile Home 1	insert Pag	ge Layout Formul	as Data Re	view	View No	omas Office				۵ 🕜 🗆 🕯	F X
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1	Unit Price (£)	VAT (£)	Total Price (£)			ivery Date	Delivery		Delivery Time WD	Delivery Band		
2	£0.37	£0.07	£2.66	02/01/2010	2	0/01/2010	18		13	11 - 20 Days	Phil Smith	
3	£4.38	£0.88	£42.05	03/01/2010	1	5/01/2010	12		10	1 - 10 Days	Mark Johnson	
4	£4.38	£0.88	£42.05	03/01/2010	1	5/01/2010	12		10	1 - 10 Days	Mark Johnson	
5	£20.98	£4.20	£478.34	04/01/2010	0	6/01/2010	2		3	1 - 10 Days	John Henderson	
6	£143.78	£28.76	£345.07	04/01/2010	2	6/01/2010	22		17	11 - 20 Days	Dave Hill	
7	£499.98	£100.00	£599.98	04/01/2010	0	1/03/2010	56		41	Over 20 Days	Mark Crowe	
8	£11.43	£2.29	£96.01	05/01/2010	1	7/01/2010	12		9	1 - 10 Days	Phil Smith	
9	£11.43	£2.29	£96.01	05/01/2010	1	7/01/2010	12		9	1 - 10 Days	Phil Smith	
10	£0.98	£0.20	£22.34	05/01/2010	2	3/01/2010	18		14	11 - 20 Days	Mark Johnson	
11	£5.67	£1.13	£27.22	09/01/2010	2	2/01/2010	13		10	1 - 10 Days	Mark Johnson	
12	£5.67	£1.13	£27.22	09/01/2010	2	2/01/2010	13		10	1 - 10 Days	Mark Johnson	
13	£0.50	£0.10	£5.40	09/01/2010	2:	1/01/2010	12		9	1 - 10 Days	John Henderson	
14	£12.99	£2.60	£779.40	10/01/2010	0	3/02/2010	24		18	11 - 20 Days	Mark Crowe	
15	£0.47	£0.09	£3.95	11/01/2010	20	0/01/2010	9		8	1 - 10 Days	Dave Hill	
16	£0.47	£0.09	£3.95	11/01/2010	2	0/01/2010	9		8	1 - 10 Days	Dave Hill	
17	£62.00	£12.40	£297.60	11/01/2010	2	3/02/2010	43		32	Over 20 Days	Mark Johnson	
18	£2.24	£0.45	£24.19	12/01/2010	2	6/01/2010	14		11	11 - 20 Days	Dave Hill	
19	£1.17	£0.23	£5.62	13/01/2010	2	2/01/2010	9		8	1 - 10 Days	Phil Smith	
20	£1.17	£0.23	£5.62	13/01/2010	2	2/01/2010	9		8	1 - 10 Days	Phil Smith	
21	£2.90	£0.58	£10.44	15/01/2010	2	3/01/2010	8		6	1 - 10 Days	John Henderson	
22	£2.90	£0.58	£10.44	15/01/2010	2	3/01/2010	8		6	1 - 10 Days	John Henderson	
23	£1.04	£0.21	£9.98	15/01/2010	0	2/02/2010	18		13	11 - 20 Days	Mark Crowe	
24	£11.78	£2.36	£28.27	16/01/2010	2	5/01/2010	9		6	1 - 10 Davs	Mark Johnson	

In the above example, a Conditional Format has been applied to highlight 'Delivery Bands';

1 - 10 Days	Green
11 - 20 Days	Amber
Over 20 Days	Red

Using the 'Sort' option, you can sort by colour ;

- 1 Click a cell in the data you want to `sort'.
- 2 Click the 'Sort' icon on the 'Data' tab.

	Sort								?	x
	<mark>₽</mark> Aj <u>A</u> dd	Level	X <u>D</u> elete Le	vel	Copy Level	Options.		🔽 My	<sup>,</sup> data has <u>h</u> e	aders
	Column				Sort On		Order			
	Sort by	Delivery	Band	-	Cell Color	-		•	On Top	-
								OK	Cano	-
l						 		VIN		

- 3 Select the 1<sup>st</sup> sort option, e.g. 'Delivery Band', then in the 'Sort On' column, select the 'Cell Colour' option.
- 4 In the 'Order' column, select the colour & whether it is to be sorted 'On Top' or 'On Bottom'.
- 5 Then click 'Add Level' & repeat the process.

Sort							?	x
⊉ <sub>Al</sub> Add	Level X Delete Leve		🖹 Copy Level 🔺 🔻	Options		🔽 Му	data has <u>h</u> e	aders
Column			Sort On		Order			
Sort by	Delivery Band	•	Cell Color	-		•	On Top	•
Then by	Delivery Band	•	Cell Color	-		•	On Top	•
						ОК	Cano	el

- 6 Make sure that you select the same column in the 'Then by' box and that you make the same 'On Top' selection for your next colour.
- 7 Keep repeating for each additional cell colour, that you want included in the sort.

Sort							?	x
⊉ <sub>≩</sub> <u>I A</u> dd I	Level X <u>D</u> elete Lev	/el	Copy Level	Options		V My	data has <u>h</u> e	aders
Column			Sort On		Order			
Sort by	Delivery Band	•	Cell Color	-		•	On Top	-
Then by	Delivery Band		Cell Color	-		•	On Top	-
Then by	Delivery Band	•	Cell Color	-			On Top	-
						OK	Cano	el

The above settings, will sort the list with 'Green' at the top of the list, followed by 'Amber' then 'Red'.

#### **Filter A List**

By filtering a list, you can display just the rows that meet the criteria you specify. For example, in a list of names and addresses, you can see only the names of people who live in Newcastle. There are two ways to filter a list in Microsoft Excel i) using the 'AutoFilter' command or ii) the 'Advanced Filter' command, both on the 'Data' tab.

The 'AutoFilter' command displays arrows next to the column labels in a list, so you can select the item you want to display. Use the 'AutoFilter' command to quickly filter rows using criteria in a single column.

The 'Advanced Filter' command, filters your list, as 'AutoFilter' does, but it does not display arrows in column labels for criteria selection. Instead, you type criteria in a criteria range on your worksheet.

## Filter A List Using AutoFilter

For this procedure to work, your list must have 'column labels'.

- 1 Select a cell in the list you want to filter.
- 2 Select 'Filter' from the 'Data' tab.
- 3 Click the arrow in the column, that contains the data you want to filter.

	🚽 🤊 • (° ·	-    <del>-</del>		_	_	Excel Intermediate I	xercise - Microsoft E	xcel	_			) <b>X</b>
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	A	В		С		D	E	F	G	Н	I	
1	Order No	Item No. 🔽		Description	<b>*</b>	Item Type		▼ Qt	Unit Price (£	VAT (£)	Total Price (£)	Ord
2	A001	PO-6544	Fi 2↓	Sort A to Z			Duncan & Mews	8	£4.38	£0.88	£42.05	03/0
3	A267	PO-6544	Fi A↓	S <u>o</u> rt Z to A			Duncan & Mews	8	£4.38	£0.88	£42.05	03/0
4	A268	BH-7490	н	Sort by Color		•	Hall Stationers	19	£20.98	£4.20	£478.34	04/0
5	A002	CX-8654	P 🕋	Clear Filter From	n "Item Tv	rpe"	PC World	7	£11.43	£2.29	£96.01	05/0
6	A269	CX-8654	P	Filter by Color			PC World	7	£11.43	£2.29	£96.01	05/0
7	A003	VD-2315	C	Tart Filters			Fitzerald & Co	4	£5.67	£1.13	£27.22	09/0
8	A270	VD-2315	C	Text Enters			Fitzerald & Co	4	£5.67	£1.13	£27.22	09/0
9	A541	IO-4399	R	Search		Q	Duncan & Mews	9	£0.50	£0.10	£5.40	09/0
10	A004	KL-7699	н	Select Al	I)	*	Viking Direct	7	£0.47	£0.09	£3.95	11/0
11	A271	KL-7699	н	Binding Su	upplies		Viking Direct	7	£0.47	£0.09	£3.95	11/0
12	A005	GF-7699	м	Computer	r Sunnlies		Fitzerald & Co	4	£1.17	£0.23	£5.62	13/0
13	A272	GF-7699	м	<ul> <li>Office Equals</li> </ul>	uipment	=	Fitzerald & Co	4	£1.17	£0.23	£5.62	13/0
14	A006	RP-6944	в	···· 🗹 Office Fu	rniture		Hall Stationers	3	£2.90	£0.58	£10.44	15/0
15	A273	RP-6944	в	- Packaging	)		Hall Stationers	3	£2.90	£0.58	£10.44	15/0
16	A007	CX-3812	в	Paper Printer			Clavering Statione	ers 2	£11.78	£2.36	£28.27	16/0
17	A274	CX-3812	в	Printer Su	pplies	_	Clavering Statione	ers 2	£11.78	£2.36	£28.27	16/0
18	A008	GA-5444	т			Ŧ	Hall Stationers	1	£500.73	£100.15	£600.88	17/0
19	A275	GA-5444	т		OK	Cancel	Hall Stationers	1	£500.73	£100.15	£600.88	17/0
20	A009	VC-7632	A				Viking Direct	3	£11.56	£2.31	£41.62	18/0
21	A276	VC-7632	Assem	bly Stock Boxe	s Pack	aging	Viking Direct	3	£11.56	£2.31	£41.62	18/0
22	A010	ED-4532	Bubble	e Wrap	Pack	aging	Staples	7	£38.21	£7.64	£320.96	20/0

- 4 Remove the check mark from 'Select All'.
- 5 Select the check box for the entry you want to filter & then click 'OK'.
- 6 You can select multiple check boxes to filter on two or more items.
- 7 Alternatively, type your criteria in the 'Search' box.
- 8 You can create 'Custom' filters by using 'Text Filters....Custom Filter'.

Custom AutoFilter	? ×
Show rows where: Qty	
is greater than 🔹 0	•
● <u>A</u> nd © <u>O</u> r	
is less than or equal to 🔹 10	▼
Use ? to represent any single character Use * to represent any series of characters	
	OK Cancel

9 If you have 'Date' data, then a particular set of filters are available, by using 'Date Filters.....'

)						
E	F	G	н	I	J	К
Company 🔽	Oter	Unit Price (F)	VAT (#	Total Price (£	Order Date	Delivery Dat
uncan & Mews	1		2↓	Sort Oldest to Newest		15/01/2010
uncan & Mews	B	efore	Z J	Sort Newest to Oldest	15/01/2010	
all Stationers	A	fter		Sort by Color	•	06/01/2010
C World	В	et <u>w</u> een		Clear Filter From "Order I	Data"	17/01/2010
C World	I	omorrow	n n		Date	17/01/2010
tzerald & Co	т	oday		Filter by Color	F	22/01/2010
tzerald & Co	Y	esterday		Date <u>Filters</u>		22/01/2010
uncan & Mews				Search (All)	• ۹	21/01/2010
king Direct	N	lext vvee <u>k</u>		(Select All)		20/01/2010
king Direct	ų	<u>h</u> is Week		■ 2010	20/01/2010	
zerald & Co	<u>L</u>	ast Week		i 🗹 January	22/01/2010	
zerald & Co	N	lext <u>M</u> onth		Hebruary	=	22/01/2010
all Stationers	Т	hi <u>s</u> Month		🗈 🗹 April		23/01/2010
all Stationers	ь	ast Month		🗄 🗹 May		23/01/2010
avering Stationers		-		Image: Second		25/01/2010
avering Stationers	D D	iext Quarter				25/01/2010
all Stationers		nis Q <u>u</u> arter		I BALL	*	26/01/2010
all Stationers	L L	ast Qua <u>r</u> ter		OK	Cancel	26/01/2010
king Direct	N	le <u>x</u> t Year		04	cuncer	29/01/2010
king Direct	Т	h <u>i</u> s Year	2.31	£41.62	18/01/2010	29/01/2010
aples	Last <u>Y</u> ear		7.64	£320.96	20/01/2010	30/01/2010
aples			7.64	£320.96	20/01/2010	30/01/2010
king Direct		car to bate		£106.42	22/01/2010	30/01/2010
king Direct	A	II Dates in the <u>P</u> eriod	10 06	Absence Data 2010	22/01/2010	30/01/2010
	C	ustom <u>F</u> ilter	No X	Absoluce Doca 2010 X	用口口 90%	<u> </u>
	_		_			· ·

- 10 Similarly, numeric data has it's own set of filters.
- 11 You can also filter by 'Colour'.

	J	×	Hall Stationers						
			С		D		E	F	(
No.	-		Description	Iten	1 Туре	-	Company	Qt	Unit Pr
	Fi	₽↓	Sort A to Z				Duncan & Mews	8	£4.
	E	Z↓	S <u>o</u> rt Z to A				Duncan & Mews	8	£4.
	н		Sor <u>t</u> by Color			F	Hall Stationers	19	£20
	P	7	Clear Filter From "	Item Tyne"			PC World	7	£11
	P	*	<u>Clear Filter</u>	item type				7	£11
	С		Filter by Color			•	Filter by Cell Color	4	£5.
	С		Text <u>F</u> ilters			•		4	£5.
	R		Search		\$	0		9	£0.
	н		: (Select All)					7	£0.
	н		Binding Sup	plies		1	Viking Direct	7	£0.
	м		Computer				Fitzerald & Co	4	£1.
	м		Computer S	iupplies	-		Fitzerald & Co	4	£1.
	в		···· ✓ Office Furni	iture			Hall Stationers	3	£2.
	в		···· Packaging				Hall Stationers	3	£2.
	в		···· Paper		_		Clavering Stationers	2	£11
	в		Printer	olios			Clavering Stationers	2	£11
	т			unca.	-		Hall Stationers	1	£50
	т			<b>0</b> ″	Connect		Hall Stationers	1	£50
	А			OK	Cancel		Viking Direct	3	£11
		_							

You can also copy & paste a 'Filtered' list to another part of the

worksheet or to another worksheet altogether.

## **RE-ORGANISING DOWNLOADED DATA**

When data is downloaded (exported) from other database applications, there can be several problems with the data ;

- Data is contained within one column.
- Data contains unwanted spaces (normally at the front of the data).
- Data contains non-printing characters.

The spreadsheet below, demonstrates all of these problems.

		EACCI INCOMO					
Fi	e Home Insert Page Layout	Formulas Data R	Review View	Nomas Offic	e		
	From Veb From Text From Other Get External Data	Connections 2↓ Properties 2↓ h ⇔ Edit Links 2↓ Connections	Sort & Filter	K Clear Reapply Advanced	Text to Remove Columns Duplicate	Data Validation * Consolidate What-If Analysis * ta Tools	Group Ungr
	S1 ▼  fx Add	ress					
- 1		S				Т	
1		Address					
2	□23 North Drive, Gosforth, N	lewcastle, Tyne & I	Wear, NE3 5T	н			
3	□46 Bridge Street, Fawdon,	Newcastle, Tyne &	Wear, NE3 1	HJ			
4	□1 Valley Drive, High Farm, I	Morpeth, Northumb	erland, NE66	1BW			
5	□23 Edgeway, Washington,	Sunderland, Tyne 8	& Wear, SR45	203			
6	□4 The Close, The Covers, N	lewbiggin, Northum	berland, NE29	9 8YJ			
7	□5 Beacon Way, Gosforth, N	lewcastle, Tyne & I	Wear, NE4 3P	0			
8	□23 High Street, Kenton, Ne	wcastle, Tyne & W	/ear, NE3 4UJ				
9	□4 Grace Street, Gosforth, I	Newcastle, Tyne &	Wear, NE3 47	'L			
10	□8 Moorlands, Gosforth, Nev	vcastle, Tyne & We	ear, NE3 2UY				
11	□7 Newlands, Fulwell, Sunde	rland, Tyne & Wea	r, SR29 9HG				
12	□32 Abbey Road, South Shie	ds, Newcastle, Ty	ne & Wear, N	E32 5UP			
13	76 Marion Way, Washington	, Sunderland, Tyn	e & Wear, SR	34 58W			
14	□7 Devon Gardens, Washingt	on, Sunderland, Ty	yne & Wear,	5R23 54T			
15	□4 Duke Street, Rowlands Gil	l, Newcastle, Tyne	e & Wear, NES	54 78R			
16	□96 Helen Street, Gosforth,	Newcastle, Tyne &	Wear, NE32	5SB			
17	□45 Merry Banks, Rowlands G	ill, Newcastle, Tyr	ne & Wear, NB	E34 5IY			
18	□6 Cherryburn, Fawdon, Nev	vcastle, Tyne & We	ear, NE3 21K				
19	□4 Howard Street, Gosforth,	Newcastle, Tyne 8	& Wear, NE3 2	2SB			
20	🗆 3 Burnside, Washington, Ne	wcastle, Tvne & W	Vear. NE42 3T	R			

## **Converting Text To Columns – Parsing Data**

The data above is separated by a `,' character & contains 5 parts of the address in the same column. This data therefore needs to be spilt up (parsed) into 5 separate columns.

1 Ensure you have sufficient (new) blank columns, to the right of the column containing data. In the above example, 4 new columns are required.

2 Select all of the data in the column & then in the 'Data' tab, select 'Text To Columns'.

Convert Text to Columns Wizard - Step 1 of 3
The Text Wizard has determined that your data is Delimited. If this is correct, choose Next, or choose the data type that best describes your data.
Choose the file type that best describes your data: <ul> <li> <u>Delimited</u>             - Characters such as commas or tabs separate each field.</li> <li>             Fixed width             - Fields are aligned in columns with spaces between each field.</li> </ul>
Preview of selected data:
2     D23 North Drive, Gosforth, Newcastle, Tyne & Wear,       3     D46 Bridge Street, Fawdon, Newcastle, Tyne & Wear,       4     D1 Valley Drive, High Farm, Morpeth, Northumberland       5     D23 Edgeway, Washington, Sunderland, Tyne & Wear,       6     D4 The Close, The Covers, Newbiggin, Northumberland
Cancel < Back <u>N</u> ext > <u>Finish</u>

3 If the data has 'separators' e.g. ', ', select 'Delimited', then click 'Next'.

Convert Text to Columns Wizard - Step 2 of 3									
This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.									
Delimiters									
Tab									
Semicolon Treat consecutive delimiters as one									
Comma									
Space									
Other:									
Data preview									
D23 North Driv D46 Bridge Str	e G eet E	osforth awdon	Newcastle Newcastle	Tyne & Wei					
D1 Valley Driv	e H	igh Farm	Morpeth	Northumbe:					
D23 Edgeway	W	ashington	Sunderland	Tyne & Wea					
I I I I I I I I I I I I I I I I I I I	1	ne covers	Mewbiggin						
Cancel < Back Next > Einish									

- 4 Either select the 'Delimiter', or type it in the 'Other' box.
- 5 Click 'Next'

Convert Text to Columns Wizard - Step 3 of 3									
This screen lets you select each column and set the Data Format. Column data format General Ge									
Destination: \$S\$2 Data preview									
General		General	General	General					
D23 North D46 Bridge D1 Valley D23 Edgewa D4 The Clo	Gosforth Fawdon High Farm Washington The Covers	Newcastle Newcastle Morpeth Sunderland Newbiggin	Tyne & We Tyne & We Northumbe Tyne & We Northumbe:						
<ul> <li>✓ III → F</li> <li>Cancel &lt; Back Next &gt; Finish</li> </ul>									

- 6 Each column can be formatted before splitting the data.
- 7 Click 'Finish'.
- 8 Assuming you have entered the required number of empty columns (as described previously), click 'OK'.



- 9 If you have not entered new columns, you will have to click 'Cancel' at this point, insert the blank columns & then go through the procedure again.
- 10 The data will then be separated into the required number of columns & in this example, the address will be split into the appropriate parts.

#### **Nomas Training & Consultancy Ltd**

<b>X</b>	🔣 🚽 🤊 🔹 🖓 🛨 😌 🖛 Excel Intermediate Exercise Nike [Compatibility Mode] - Microsoft Excel												
Fi	ile Hor	ne Insert Pa	ge Layout	Formul	las Data F	leview	View	Nomas Office				۵ (	3 - f X
Pas	te 🛷	Verdana • B I U • Em Font	10 · A		Ĩ		Genera 9 -	l ▼ % •	Conditional F Formatting ▼ as Sty	ormat Cell Table * Styles * les	Gelete Gelete Gelete Cells	× Σ × A Z Sort & F C Z × Filter × S Editing	Find & Select ~
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- 1		S			Т			U	J	V			
1		Street		Area				Town		County		Post Code	
2		23 North Drive		Gosfor	th			Newcastle		Tyne & We	ear	NE3 5TH	
3		46 Bridge Street		Fawdo	n			Newcastle		Tyne & We	ear	NE3 1HJ	
4		1 Valley Drive		High Fa	ərm			Morpeth		Northumbe	rland	NE66 1BW	
5		23 Edgeway		Washin	ngton			Sunderland		Tyne & We	ear	SR45 2UJ	
6		4 The Close		The Co	vers			Newbiggin		Northumbe	rland	NE29 8YJ	
7		5 Beacon Way		Gosfor	th			Newcastle		Tyne & We	ear	NE4 3PO	
8		23 High Street		Kenton	1			Newcastle		Tyne & We	ear	NE3 4UJ	
9		4 Grace Street		Gosfor	th			Newcastle		Tyne & We	ar	NE3 47L	
10		8 Moorlands		Gosfor	th			Newcastle		Tyne & We	ar	NE3 2UY	
11		7 Newlands		Fulwell				Sunderland		Tyne & We	ear	SR29 9HG	
12		32 Abbey Road		South	Shields			Newcastle		Tyne & We	ear	NE32 5UP	
13		76 Marion Way		Washin	ngton			Sunderland		Tyne & We	ear	SR34 58W	

#### **Removing Spaces**

Use the TRIM function to remove all spaces from text, except for single spaces between words.

#### =TRIM(S2)

The formula would need to be entered in a new column & then copied & pasted (use 'Paste Special') to paste the 'Values' over the existing data.

#### **Removing Non-Printing Characters**

Occasionally, data which has been exported from another application, may contain non-printing characters.

Use the CLEAN function to remove these characters from text.

#### =CLEAN(S2)

These 2 functions could be combined, in to a single formula.

#### =TRIM(CLEAN(S2))

In order that both operations are performed in a single formula, without the need to enter 2 separate formulae.

## CALCULATIONS USING FORMULAE

Excel can perform calculations on your data. This can be done by using 'formulae' within your spreadsheet. All formulae within Excel have the equals sign (=) as the first character.

## All formulae within Excel have the equals sign (=) as the first character.

Operation	Excel Key	Example
Addition	+ (plus sign)	=A1+B3
Subtraction	- (minus sign)	=A1-B3
Multiplication	* (star or asterisk)	=A1*B3
Division	/ (forward slash)	= A1/B3
Exponential ^ (caret)		=A1^2 (equiv to A1 squared)
Brackets	( ) (open / close brackets)	=(A1+B3)/C4

All standard arithmetic operators can be used ;

The order that a calculation is performed is important to remember. Excel follows the standard mathematical rules i.e. the following order is adopted ;

1	Anything in brackets is done first, then	В
2	Orders e.g. squared, square root etc.	0
3	Division.	D
4	Multiplication.	Μ
5	Addition.	Α
6	Subtraction.	S

Thus, the following formulae ;

= 5+7\*3 Produces the answer 26.

= (5+7)\*3 Produces the answer 36.

## **Creating A Simple Formula**

To create your own formula ;

- 1 Start with an equals sign =.
- 2 Enter the formula e.g. =54 / 7.
- 3 Press the 'green tick' on the toolbar or press the 'ENTER' key.
- 4 The cell will display the result of the formula.
- 5 The actual formula itself, will be visible in the 'Formula Bar'.

#### Formulae Involving Cell References

Excel has the ability to perform calculations based on the content of other cells in a spreadsheet (as in the example below).

- 1 Make the active cell, the cell where you want to put your formula.
- 2 Start with an equals sign =.
- 3 As you are using cell references, click in the first cell you require in your formula (D2, in the example below).

	RIGHT ▼ X √ fx =D2*1.2										
	В	С	D	E							
1	Description	Item No.	Unit Price (ex VAT)	Unit Price (inc VAT)							
2	A4 Pad	RW2138	£1.43	=D2*1.2	ļ						
3	Computer Adjustable Chair	CR2145	£64.87		Í						
4	Memory Stick 8Gb	AW9802	£2.24								
5											

- 4 Enter the required arithmetic operator e.g. \*
- 5 Complete the remaining formula
- 6 Press the 'green tick' on the toolbar or press the 'ENTER' key.
- 7 The cell will display the result of the formula.
- 8 The actual formula itself, will be visible in the 'Formula Bar'.

## **Addition Of Columns Or Rows**

To add a whole group of cells together, a formula such as `=A1+A2+A3....etc.' could be used, however, this would be rather tedious if there were hundreds of cells to add.

Using the 'AutoSum' button  $\Sigma$  AutoSum on the 'Formulas' or 'Home' tab, is the quickest method. To use the 'AutoSum' button ;

- 1 Move to the cell where the answer will be displayed.
- 2 Press the 'AutoSum' button
- 3 Excel makes a 'best guess' at which cells you are going to add up and displays them in the formula bar. It does this by looking at the cells directly above the active cell or if no data are present, to the left of the active cell.
- 4 If it has not chosen the correct 'cell range', select it using the mouse.
- 5 Press 'Enter'.

## **Copying Formulae – Relative & Absolute References**

Formula can be copied into other cells and can be made either a ;

- 1 **Relative** reference, or
- 2 **Absolute** reference

A **relative reference** e.g. F5, should be used if you always want to refer to cells relative to the cell containing the formula, even if you copy the formula. When you copy a formula, Excel automatically adjusts itself to look at the correct cells.

If you have a formula ;

=B6 \* 7 and copy this down a column, the formulae below it, will become

=B7 \* 7 =B8 \* 7

- =B9 \* 7
- =B10\*7.....and so on.

If however, you want to refer to the same cell regardless of where the formula is on the worksheet, use an **absolute reference**.

A `\$' sign should be placed before the column letter or row number (whichever is appropriate), in order to `freeze' the cell reference when it is copied.

(CII	poard '¥	FONT	JL	Alignment	Ш. К.	Number	191	Styles		Cells		Ealting	
	SUMIF		*L\$1										
	A	В	С	D	E	F	G	Н	- I	J	K	L	M
1	Order No.	Item	Item No.	Company	Qty	Unit Price (£)	VAT	Total Price (£)	Order Date		VAT Rate	20%	
2	A001	Dell PC	DPC-4321	Dell	4	£1,350.00	=F2*L\$1		02/09/2012				
3	A002	Reams Printing Paper	EW-9000	Viking Direct	30	£3.12		Ī	03/09/2012				
4	A003	Ball Point Pens	PU-9821	Staples	60	£0.43			07/09/2012				
5	A004	Boxes of Self Seal Envelopes	RE-8322	Camerons	8	£23.10			10/09/2012				-
6	A005	Boxes Wage Envelopes	UY-7655	Viking Direct	10	£14.78			11/09/2012				
7	A006	Boxes InkJet Labels	RP-6944	Hall Stationers	5	£2.90			13/09/2012				
8	A007	Cash Register Rolls	SA-2315	Fitzerald & Co	11	£5.67			19/09/2012				
9	A008	Packs Photo Paper	CX-8654	PC World	2	£11.43			20/09/2012				
10	A009	Fax Rolls	PO-6544	Duncan & Mews	5	£4.38			22/09/2012				
11	A010	Boxes Computer Listing Paper	XN-8754	Viking Direct	3	£12.54			23/09/2012				
12	A011	Boxes Business Envelopes	CX-3812	Hall Stationers	8	£11.78			24/09/2012				
13	A012	Padded Bags	HH-8217	Hall Stationers	6	£0.35			25/09/2012				
14	A013	Assembly Stock Boxes	VC-7632	Viking Direct	3	£11.56			26/09/2012				
15	A014	Pack Bubble Wrap	ED-4532	Staples	4	£38.21			27/09/2012				
16	A015	Packs Yellow Notes	NB-8765	Staples	3	£0.87			28/09/2012				
17	A016	Roll Transparent Tape	IO-4399	Duncan & Mews	4	£2.76			28/09/2012				
18	A017	Roll Packaging Tape	WQ-4366	Viking Direct	5	£1.90			29/09/2012				
19	A018	Rolls Sellotape	KD-4329	Camerons	4	£0.54			29/09/2012				
20	A019	Pack Index Tabs	MK-6549	Staples	3	£0.52			30/09/2012				
21	A020	Packs Sticky Notes	ZZ-9988	Duncan & Mews	4	£1.21			01/10/2012				
22	A021	Rolls Magic Tape	WO-9876	Hall Stationers	5	£0.90			02/10/2012				
23	A022	Analysis Books	AW-9802	Smith & Co	6	£2.24			04/10/2012				
24	A023	Invoice Book	RO-4987	Viking Direct	7	£1.76			05/10/2012				
25	A024	Delivery Books	RO-4987	Camerons	6	£3.19			07/10/2012				
26	A025	Shorthand Books	RO-4987	Duncan & Mews	5	£2.53			08/10/2012				
27	A026	Manuscript Books	GF-7699	Fitzerald & Co	4	£1.17			09/10/2012				
28	A027	Highlighter Deps	VI -7600	Stanles	3	£0.25			10/10/2012				

If, in the above example, in Column G, cell F2 is multiplied by the contents of L1 and you want all the subsequent cells, to be multiplied by L1, then you should use the formula =F2\*L\$1. In this example, L1 has become an absolute reference and when you copy this formula, it will always retain L1, although changing the cell numbers of column F.

=F2 \* L\$1 =F3 \* L\$1 =F4 \* L\$1 =F5 \* L\$1 =F6 \* L\$1.....and so on.

## Formulae Using Functions

In addition to simple mathematical operators e.g. multiplication, subtraction etc., Excel has a variety of 'Functions', these are available via the 'Insert Function' icon, on the 'Formulas' tab or the  $f_x$  button, to the left of the 'Formula Bar'.

Insert Function			? X					
Search for a function:								
Type a brief descripti Go	on of what you want to d	o and then click	Go					
Or select a <u>c</u> ategory:	Most Recently Used	•						
Select a function:								
VLOOKUP			*					
AVERAGE			=					
IF HYPERLINK								
COUNT			-					
VLOOKUP(lookup	value,table array,col	index num,ran	ge lookup)					
Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.								
Help on this function		ОК	Cancel					

The use of several of the most commonly used functions e.g. SUM, AVERAGE, COUNT, were discussed in the 'Introduction' course.

Due to the large number of functions available, it is beyond the scope of this guide to cover all of these functions, however, the following examples show how to use some of the more commonly used functions. You can search for a function by typing the function name, in the 'Search for a function' box & clicking the 'GO' button.

## **Using IF Statements**

You can use the IF statement to determine if a particular 'criteria' is true or not, and then produce a response depending on the outcome. For example, if you had a 'Production' worksheet, detailing daily production figures & targets, you could use an IF function, to check whether production targets, have been achieved.

	(	70.6.9	, I <del>-</del>				Excel Int	ermediate	e Exercise	- Micro	osoft Excel				
		e Home	Insert Page Layout	Formulas D	ata Review	View	Developer								
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	-	Copy 👻				~		ocite		- 0 - 00	100 A		3 <u>2</u> 111		
	Past	🧳 Format Pain	ter B Z U -	<u>⊞</u> •   <u>⊘</u> • A •	B 8 8 1	FF	Merge & Cent	ter - ung -	% *	.00 0.0	Formatting * a	as Table - Styl	ell insen	Delete	Format
		Clipboard	Fa For	nt G		Alignme	nt	Ga .	Number	Fa.	S	tyles		Cells	
	IF → ( × ✓ / / / I=IF(B2>=C2, "Target Achieved", Missed Target)														
	A	A	В	С	D		E		F	G	Н	1	J	K	L
	1	Date	Units Produced	Target	Variance (	(%)	Comm	ent							
	2	02/01/2013	3654	3636	0.5%		d",Missed Tar	get)							
	3	03/01/2013	3765	3654	3.0%										
	4	04/01/2013	3098	3672	-15.6%	,									
	5	05/01/2013	4231	3691	14.6%										
	6	06/01/2013	3870	3709	4.3%				Functio	on Argui	ments		?	×	
1	7	07/01/2013	3675	3728	-1.4%	IF								_	
	8	08/01/2013	3546	3746	-5.3%		Logical_test	B2>=C2			🖌 = TRUE				
	9	09/01/2013	3657	3765	-2.9%		Value_if_true	"Target Achi	eved"		📧 = "Target	t Achieved"			
1	10	10/01/2013	3214	3214	0.0%		Value_if_false	Missed Targe	et		-				
1	11	11/01/2013	3589	3803	-5.6%						= "Target	t Achieved"			
1	12	12/01/2013	4389	4289	2.3%	Checks	whether a condition	n is met, and i	returns one v	alue if TRI	JE, and another	value if FALSE			
1	13	13/01/2013	3970	3841	3.4%		V	alue_if_fals	e is the valu	ue that is r	eturned if Logica	l_test is FALSE	. If omitted, I	ALSE	
1	14	14/01/2013	3586	3890	-7.8%				Isreturie	u.					
1	15	15/01/2013	3174	3980	-20.39	Farmel 1		del acced							
1	16	16/01/2013	3643	3956	-7.9%	Formula	a result = Target A	chieved							
1	17	17/01/2013	3128	4020	-22.29	Help on	this function					OK	Can	:el	
_															

The example above, uses an IF function (column 'E') to check production figures.

If you do not want both the 'True' & 'False' text to appear, you must use a blank set of speech marks "" in the box, otherwise FALSE will be displayed in the cell.

	Clipboard	For	nt 🔤	Alignme	nt 🖬 Nu
	E2	▼ (* <i>f</i> x	=IF(B2>=C2,"Targe	et Achieved","")	
	А	В	С	D	E
1	Date	Units Produced	Target	Variance (%)	Comment
2	02/01/2013	3654	3636	0.5%	Target Achieved
3	03/01/2013	3765	3654	3.0%	Target Achieved
4	04/01/2013	3098	3672	-15.6%	
5	05/01/2013	4231	3691	14.6%	Target Achieved
6	06/01/2013	3870	3709	4.3%	Target Achieved
7	07/01/2013	3675	3728	-1.4%	
8	08/01/2013	3546	3746	-5.3%	
9	09/01/2013	3657	3765	-2.9%	
10	10/01/2013	3214	3214	0.0%	Target Achieved
11	11/01/2013	3589	3803	-5.6%	
12	12/01/2013	4389	4289	2.3%	Target Achieved
13	13/01/2013	3970	3841	3.4%	Target Achieved
14	14/01/2013	3586	3890	-7.8%	
15	15/01/2013	3174	2080	- 20 3%	

## Looking Up Values In A Table

You can look up the contents of various cells within a data set. For example, if an item has a particular code, you simply enter the code number and the name of the item, will be displayed.

## Using VLOOKUP

This function looks down a vertical column of data until an appropriate value is found. In the example below, an orders sheet is set up, so that when the 'Item No. is present in column 'B', it 'looks up' the 'Description', 'Item Type' & 'Company' & enters these into columns 'C', 'D' & 'E' respectively.

	· ·
C2 • ( fx	
A B C D E F G H	-
Order No. Item No. Description Item Type Company Qty Unit Price ( $\mathcal{E}$ ) VAT ( $\mathcal{E}$ ) Total Price ( $\mathcal{E}$ ) VAT ( $\mathcal{E}$ ) VAT ( $\mathcal{E}$ ) Total Price ( $\mathcal{E}$ ) VAT ( $\mathcal$	rice (£) Ord
2 A537 SS-5533 6 £0.37 £0.07 • £2.	
3 A001 PO-6544 8 £4.38 £0.88 € £42	2.05 03/0
4 A267 PO-6544 8 £4.38 £0.88 € £42	2.05 03/0
5 A268 BH-7490 19 £20.98 £4.20 9 £470	8.34 04/0
6 A538 QW-6429 2 £143.78 £28.76 9 £34	5.07 04/0
7 A539 GD-6555 1 £499.98 £100.00 €£59	9.98 04/0
8 A002 CX-8654 7 £11.43 £2.29 £96	5.01 05/0
9 A269 CX-8654 7 £11.43 £2.29 £96	5.01 05/0
10 A540 IO-4399 19 £0.98 £0.20 €£22	2.34 05/0
11 A003 VD-2315 4 £5.67 £1.13 £27	7.22 09/0
12 A270 VD-2315 4 £5.67 £1.13 £27	7.22 09/0
13 A541 IO-4399 9 £0.50 £0.10 £5.	.40 09/0
14 A542 DF-5643 50 £12.99 £2.60 9 £774	9.40 10/0
15 A004 KL-7699 7 £0.47 £0.09 £3.	.95 11/0
16 A271 KL-7699 7 £0.47 £0.09 £3.	.95 11/0
17 A543 IO-4399 4 £62.00 £12.40 • £29	7.60 11/0
18 A544 AW-9802 9 £2.24 £0.45 € £24	4.19 12/0
19 A005 GF-7699 4 £1.17 £0.23 £5.	.62 13/0
20 A272 GF-7699 4 £1.17 £0.23 € £5.	.62 13/0
21 A006 RP-6944 3 £2.90 £0.58 €10	0.44 15/0
22 A273 RP-6944 3 £2.90 £0.58 £10	0.44 15/0
23 A545 KG-8459 8 f1.04 f0.21 • f9	.98 15/0
24 A007 CX-3812 2 £11.78 £2.36 £28	3.27 16/0
25 A774 CV-3817 2010 (1) 2 (2) (2)	2 27 16/0
Company Absence 2010 / Absence Summary / Sales Data / Employees Orders / Item Nos / Absence Data 2010 4	

The 'Description', 'Item Type' & 'Company' are stored on a separate sheet 'Item Nos' (above).

#### Nomas Training & Consultancy Ltd

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	A	В	С	D	E F
1	Item No.	Description	Item Type	Company	Location
2	AB-8654	Business Boxes	Packaging	Hall Stationers	Hexham
3	AG-6544	Computer Labels	Computer Supplies	Staples	Sunderland
4	AH-3280	Arch Files	Stationery	Smith & Co	Alnwick
5	AP-4299	Dictation Machines	Office Equipment	Camerons	Newcastle
6	AQ-2765	Computer Mouse	Computer Supplies	Dell	Dublin
7	AS-3212	Space Saving Boxes	Packaging	Fitzerald & Co	Darlington
8	AS-9876	Permanent Marker Pens	Stationery	Hall Stationers	Hexham
9	AS-9877	Permanent Markers	Stationery	Viking Direct	Leeds
10	AW-9802	Analysis Books	Stationery	Clavering Stationers	Kingston Park
11	BA-4388	Zip Bags	Stationery	Staples	Sunderland
12	BC-5398	Book Shelves	Office Furniture	Camerons	Newcastle
13	BC-0986	Laminating Pouches	Stationery	Viking Direct	Leeds
14	BC-6453	Laminator	Office Equipment	Camerons	Newcastle
15	BH-7490	Hole Punches	Stationery	Clavering Stationers	Kingston Park
16	BL-9437	Zip Discs	Computer Supplies	Staples	Sunderland
17	BU-9876	Retractable BallPoint Pens	Stationery	Staples	Sunderland
18	BV-4387	Boxes Binding Combs	Stationery	Clavering Stationers	Kingston Park
19	BW-5376	Boxes Addressing Labels	Stationery	Fitzerald & Co	Darlington
20	CB-4311	Flip Charts	Training Equipment	Clavering Stationers	Kingston Park
21	CB-5499	Flip Chart Pads	Training Equipment	Camerons	Newcastle
22	CB-8654	Flip Chart Boards	Training Equipment	Fitzerald & Co	Darlington
23	CR-2145	Adjustable Chairs	Office Equipment	Camerons	Newcastle
24	CS-4329	Black Roller Pens	Stationery	Duncan & Mews	Durham
25	CV-8765	Packs Polythene Bags	Stationery	Duncan & Mews	Durham
26	CX-3812	Boxes Business Envelopes	Stationery	Clavering Stationers	Kingston Park
14		Company Absence 2010 Absence	e Summary / Sales Data / F	Employees Orders It	em Nos Absence Data 2010
Rea	adv				

To work through the VLOOKUP function, the worksheet that holds the reference data i.e. the 'Item Nos' sheet, must have the reference column i.e. 'Item No.' as the first column, on the left of the main data (see above).

You would enter the following parameters, in the VLOOKUP function ;

Function Arguments		? ×							
VLOOKUP									
Lookup_value	B2 ES-5533"								
Table_array	'Item Nos'!A:E 💽 = {}								
Col_index_num	2 💽 = 2								
Range_lookup	false 💽 = FALSE								
= "Correction Fluid" Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order. Col_index_num is the column number in table_array from which the matching value should be returned. The first column of values in the table is column 1.									
Formula result = Correction	n Fluid								
Help on this function		OK Cancel							

You will thus end up with the following formula, in your cell.

## =VLOOKUP(B2, 'Item Nos'!A:E,2,FALSE)

Where :

Lookup_value =	Cell where Item No. is entered (B2)
Table_array =	Area where Item No & Description are stored (Item Nos'!A:E)
Col_index_num =	Second column, along to the right of column 'A' (2)
Range_lookup =	Ensures an exact match is found (False)

## **Conditional Sums**

To 'Sum' values in a list (that meet specific conditions) use the 'SUMIF' function.

capoona													,,		cons	conting	Conting	
02 • (*		$f_{x}$																
	A	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р		
1	Clock No	Initial	Surname	Dept	Date	Code	Group	Course	Level	Provider	Score	Cost			COST	ATTENDEES		
2	0144F	к	White	Finance	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	8	£ 60		Finance				
3	0145M	н	Corbitt	Purchasing	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	8	£ 60		Health & Safety				
4	0146M	EG	Gallagher	HR	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	7	£ 60		HR				
5	0136M	м	Raven	Production F1	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	5	£ 60		Main Office				
6	0137M	R	Dingwall	Finance	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	8	€ 60		Production F1				
7	0138F	RH	Jacks	Purchasing	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	9	£ 60		Production F2				
8	0139F	A	Robb	HR	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	7	£ 60		Purchasing				
9	0140M	LS	Stubbs	Health & Safety	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	10	€ 60		TOTAL				
10	0128F	С	Davies	Production F2	03/12/2012	E2	п	MS Excel	Advanced	Nomas	8	£ 60						
11	0129F	A	Smythes	Production F1	03/12/2012	E2	п	MS Excel	Advanced	Nomas	7	£ 60						
12	0130F	DB	Hunter	Finance	03/12/2012	E2	п	MS Excel	Advanced	Nomas	10	€ 60						
13	0131F	A	Fisher	Purchasing	03/12/2012	E2	п	MS Excel	Advanced	Nomas	9	£ 60						
14	0132F	м	Bell	HR	03/12/2012	E2	п	MS Excel	Advanced	Nomas	8	£ 60						
15	0166M	J	Burrell	Production F1	30/11/2012	W2	п	MS Word	Advanced	Training 4U	9	£ 60						
16	0167M	W	Calum	Production F2	30/11/2012	W2	п	MS Word	Advanced	Training 4U	10	£ 60						
17	0168F	т	Burdus	Finance	30/11/2012	W2	п	MS Word	Advanced	Training 4U	5	€ 60						
18	0157M	в	Bateson	Production F2	29/11/2012	W2	п	MS Word	Advanced	Jigsaw	8	£ 60						
	012011	0	Develop	Draduation E1	20/11/2012	14/22		MC Mord	Advanced	lianaur	0	C 60						

The formula below, calculates the total cost of all courses, attended by Finance employees.

Function Arguments			? ×
SUMIF			
Range	D:D	=	{"Dept"; "Production F1"; "Production F2"
Criteria	N2	=	"Finance"
Sum_range	L:L	=	{"Cost";60;60;60;50;50;50;50;50;50;50;50;50;50;50;50;50
		=	3810
Adds the cells specified by a given a given by a given	ven condition or criteria.		
Su	<b>m_range</b> are the actual cells to sum. I	for	itted, the cells in range are used.
Formula result = 3810			
Help on this function			OK Cancel

#### =SUMIF(D:D,N2,L:L)

Where ;

Range	Is the range of cells you want evaluated (	D:D)	)
-------	--	------	---

Criteria Is the criteria, in the form of a cell reference that defines which cells will be added. E.g. in the above example, the Total Cost is calculated, using a cell reference of **`N2**', for the criteria.

Sum\_range Are the actual cells to sum. The cells in `sum\_range' are summed only if their corresponding cells in `range', match the criteria (L:L).

There is a new function in Excel 2010 (**SUMIFS**), which allows the addition of cells in a range that meet multiple criteria.

_								-									_
	0	3	• (**	$f_{x}$													
A	Α	В	С	D	E	F	G	Н	1	J	К	L	М	N	0	Р	
1	Clock No	Initial	Surname	Dept	Date	Code	Group	Course	Level	Provider	Score	Cost			COST	ATTENDEES	
2	0144F	к	White	Finance	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	8	£ 60		Finance	3810		
3	0145M	н	Corbitt	Purchasing	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	8	£ 60		MS Excel			
4	0146M	EG	Gallagher	HR	17/12/2012	E2	п	MS Excel	Advanced	Direct Training	7	£ 60		MS PowerPoint			
5	0136M	м	Raven	Production F1	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	5	£ 60		MS Project			
6	0137M	R	Dingwall	Finance	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	8	£ 60		MS Word			
7	0138F	RH	Jacks	Purchasing	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	9	£ 60		MS Visio			
8	0139F	A	Robb	HR	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	7	£ 60		TOTAL			
9	0140M	LS	Stubbs	Health & Safety	10/12/2012	E2	п	MS Excel	Advanced	Seymour Training	10	£ 60					
10	0128F	С	Davies	Production F2	03/12/2012	E2	п	MS Excel	Advanced	Nomas	8	£ 60					
11	0129F	A	Smythes	Production F1	03/12/2012	E2	п	MS Excel	Advanced	Nomas	7	£ 60					
12	0130F	DB	Hunter	Finance	03/12/2012	E2	п	MS Excel	Advanced	Nomas	10	£ 60					
13	0131F	A	Fisher	Purchasing	03/12/2012	E2	п	MS Excel	Advanced	Nomas	9	£ 60					
14	0132F	М	Bell	HR	03/12/2012	E2	п	MS Excel	Advanced	Nomas	8	£ 60					
15	0166M	J	Burrell	Production F1	30/11/2012	W2	п	MS Word	Advanced	Training 4U	9	£ 60					
16	0167M	W	Calum	Production F2	30/11/2012	W2	п	MS Word	Advanced	Training 4U	10	£ 60					
17	0168F	т	Burdus	Finance	30/11/2012	W2	п	MS Word	Advanced	Training 4U	5	£ 60					
18	0157M	в	Bateson	Production F2	29/11/2012	W2	п	MS Word	Advanced	Jigsaw	8	£ 60					
19	0158M	С	Douglas	Production F1	29/11/2012	W2	п	MS Word	Advanced	Jigsaw	9	£ 60					
20	0159M	D	Cameron	Health & Safety	29/11/2012	W2	п	MS Word	Advanced	Jigsaw	6	£ 60					
													1				

For example, in the above data set, you could calculate the total cost (Column L) of all Excel courses (Column H), attended by Finance employees (Column D).

The expression would look like ;

Function Arguments				? ×						
SUMIFS										
Sum_range	L:L		=	{"Cost";60;60;60;50;50;50;50;50;50;50						
Criteria_range1	D:D		=	{"Dept"; "Production F1"; "Production F2"						
Criteria1	N2		=	"Finance"						
Criteria_range2	H:H		=	{"Course"; "MS Word"; "MS Word"; "MS W						
Criteria2	N3		=	"MS Excel" 👻						
= 830 Adds the cells specified by a given set of conditions or criteria. <b>Criteria2:</b> is the condition or criteria in the form of a number, expression, or text that defines which cells will be added.										
Formula result = 830 <u>Help on this function</u>				OK Cancel						

## Extracting Data from the Left or Right of a Cell

If data in a cell, needs to be 'split up' or certain characters extracted from either end of a data set, then the 'Left' or 'Right' function can be used. For example, if an employees number was in the format 0045M, where the last character denoted the gender of the person and the data was stored in Column A, then the final character could be extracted using the formula ;

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	B2 ▼ (* <i>f</i> <sub>x</sub>												
	А	В	С	D	E	F	G	Н	I	J	К		
1	Clock No.	Gender	Title	Initial	Surname	Full Name	сс	Dept	Salary	Job Type	Job Title 👳		
2	0034M		Mr	FΑ	Adams		501	Production	F2 £15,920	Manual-Production	Operator		
3	0065M		Mr	т	Adamson		501	Production	F2 £15,976	Manual-Production	Operator		
4	0189M		Mr	G	Allmond		500	Production	F1 £17,621	Manual-Production	Operator		
5	0151F		Mrs	J	Anderson		501	Production	F2 £19,200	Manual-Production	Operator		
6	0195M		Mr	Α	Andrews		501	Production	F2 £19,329	Manual-Production	Operator		
7	0023M		Mr	м	Appleby		501	Production	F2 £11,870	Manual-Production	Operator		
8	0048M		Mr	w	Armstrong		501	Production	F2 £12,240	Manual-Production	Operator		
9	0037M		Mr	т	Askew		501	Production	F2 £16,125	Manual-Production	Operator		
10	0085M		Mr	w	Atkinson		500	Production	F1 £15,940	Manual-Production	Operator		
11	0150F		Mrs	Р	Ball		503	Finance	£16,097	Non Manual - Clerical	Admin Staff		
12	0032M		Mr	SJ	Banks		500	Production	F1 £28,023	Manual-Engineering	Shift Manager		
13	0064M		Mr	G	Barley		500	Production	F1 £11,870	Manual-Production	Operator		
14	0057M		Mr	J	Barry		500	Production	F1 £18,453	Manual-Production	Operator		
15	0155F		Mrs	м	Barry		502	Main Office	£14,876	Non Manual - Clerical	Admin Staff		
16	0100M		Mr	W S	Barter		501	Production	F2 £15,868	Manual-Production	Operator		
17	0009M		Mr	FΑ	Bartram		501	Production	F2 £12,210	Manual-Production	Operator		
18	0045F		Mrs	J	Bartram		502	Main Office	£15,970	Non Manual - Clerical	Admin Staff		
19	0157M		Mr	В	Bateson		501	Production	F2 £17,121	Manual-Production	Operator		
20	0035M		Mr	Р	Baxter		500	Production	F1 £16,783	Manual-Production	Operator		

## =RIGHT(A2,1)

Where ;

Text	=	cell containing data e.g. Clock No. (A2)
Num_chars	=	no. of charatcers from the right of this cell, to extract $({f 1})$

## **Combining Cell Content**

It is possible to combine or join together information, from different columns on a spreadsheet, using the 'Concatenate' function. E.g. if the employees 'Surname' & 'Initial', are stored in separate columns in a worksheet.

	A	В	С	D	E	F	G	Н		J			
1	Clock No.	Gender	Title	Initial	Surname	Full Name	сс	Dept	Salary	Job Type			
2	0034M	М	Mr	FA	Adams	=CONCATENATE(E2,", ",D2)	501	Production F2	£15,920	Manual-Production	Ореі		
3	0065M	М	Mr	Т	Adamson		501	Production F2	£15,976	Manual-Production	Ореі		
4	0189M	М	Mr	G	Allmond		500	Production F1	£17,621	Manual-Production	Ореі		
5	0151F	F	Mrs	J	Anderson		501	Production F2	£19,200	Manual-Production	Ореі		
6	0195M	м	Mr	Α	Andrews		501	Production F2	£19,329	Manual-Production	Ореі		
7	0023M	М	Mr	м	Appleby		501	Production F2	£11,870	Manual-Production	Ореі		
8	0048M	м	Mr	w	Armstrong		501	Production F2	£12,240	Manual-Production	Ореі		
9	0037M	м	Mr	т	Askew		501	Production F2	£16,125	Manual-Production	Ореі		
10	0085M	М	Mr	w	Atkinson		500	Production F1	£15,940	Manual-Production	Ореі		
11	0150F	F	Mrs	Р	Ball		503	Finance	£16,097	Non Manual - Clerical	Adm		
12	0032M	М	Mr	SJ	Banks		500	Production F1	£28,023	Manual-Engineering	Shift		
13	0064M	м	Mr	G	Barley		500	Production F1	£11,870	Manual-Production	Ореі		
14	0057M	м	Mr	J	Barry		500	Production F1	£18,453	Manual-Production	Ореі		
15	0155F	F	Mrs	м	Barry		502	Main Office	£14,876	Non Manual - Clerical	Adm		
16	0100M	м	Mr	W S	Barter		501	Production F2	£15,868	Manual-Production	Ореі		
17	0009M	М	Mr	FA	Bartram		501	Production F2	£12,210	Manual-Production	Ореі		

## =CONCATENATE(E2,", ",D2)

Function Arguments	? <u>* * * * * * * * * * * * * * * * * * *</u>									
CONCATENATE										
Text1	E2 Adams"									
Text2	*,* 🔝 = *,*									
Text3	D2 = "F A"									
Text4	= text									
= "Adams, F A" Joins several text strings into one text string.										
	and can be text strings, numbers, or single-cell references.									
Formula result = Adams,	= A									
Help on this function	OK Cancel									

Where ;

Text 1, 2, 3 etc = Cells to be combined (**E2, D2**) " " = Use " " to indicate space between cells.

## **PIVOT TABLE**

#### What Is A Pivot Table ?

A Pivot Table is an interactive worksheet table that summarises and analyses data from an existing list. You decide which of the fields (in the list) are to be arranged in rows and columns. You can re-arrange the table very easily, in effect 'twisting' the data around - hence the name Pivot Table.

Most Excel spreadsheets are generally of the same format i.e. they contain a series of fields (column headings) containing data in rows.

The following example shows a spreadsheet that contains information on the training carried out within a company, from 2007-2013. It lists the delegate details, training provider, course and cost of training. It contains a lot of information & it is very difficult to get an overall 'summarised' view. This is where the 'power' of a Pivot Table lies. They effectively display the result of a 'database analysis'.

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1	Clock No	Initial	Surname	Dept	Date	Code	Group	Course	Level	Provider	Score	Cost	Ê	
2	0001M	F	Jones	Production F1	03/01/2007	W1	IT	MS Word	Introduction	Brooks Training	6	£ 60		
3	0002M	w	Nicholson	Production F2	03/01/2007	W1	IT	MS Word	Introduction	Brooks Training	9	£ 60		
4	0004F	R G	Smith	Production F1	03/01/2007	W1	IT	MS Word	Introduction	Brooks Training	7	£ 60		
5	0005F	J	Moran	Production F2	03/01/2007	W1	IT	MS Word	Introduction	Brooks Training	9	£ 60		
6	0006M	D	Goulding	Production F2	06/01/2007	E1	IT	IT MS Excel		Brooks Training	8	£ 50		
7	0007M	м	Lucas	Production F1	06/01/2007	E1	IT	MS Excel	Introduction	Brooks Training	6	£ 50		
8	0008M	J	Bolam	Production F1	06/01/2007	E1	IT	MS Excel	Introduction	Brooks Training	5	£ 50		
9	0009M	FA	Bartram	Production F2	06/01/2007	E1	IT	MS Excel	Introduction	tion Brooks Training		£ 50		
10	0010F	D	Sawyer	Main Office	06/01/2007	E1	IT	MS Excel	Introduction	Brooks Training	8	£ 50		
11	0011M	w	Palmer	Production F1	06/01/2007	E1	IT	MS Excel	Introduction	Brooks Training	6	£ 50		
12	0075M	н	Kilpatrick	Production F2	22/01/2007	V1	IT	MS Visio	Introduction	Brooks Training	8	£ 60		
13	0076M	J	Lloyd	Production F2	22/01/2007	V1	IT	MS Visio	Introduction	Brooks Training	6	£ 60		
14	0077M	Р	Stewart	Production F1	22/01/2007	V1	IT	MS Visio	Introduction	Brooks Training	7	£ 60		
15	0078M	E	Pearce	Production F1	22/01/2007	V1	IT	MS Visio	Introduction	Brooks Training	6	£ 60		
16	0079M	G	Cowie	Production F2	22/01/2007	V1	IT	MS Visio	Introduction	Brooks Training	9	£ 60		
17	0115M	R	Whittaker	Production F1	03/02/2007	W1	IT	MS Word	Introduction	Brooks Training	8	£ 60		
18	0116M	т	Smallbone	Purchasing	03/02/2007	W1	IT	MS Word	Introduction	Brooks Training	7	£ 60		

## The Pivot Table Wizard

You create Pivot Tables by using the Pivot Table Wizard. Although this only takes a few moments, it is worth spending some time to decide how you want to summarise your data. To create a Pivot Table ;

1 Select a cell in your data & select 'Pivot Table' from the 'Insert' tab.

Create PivotTable	? ×
Choose the data that you want to analyze	
Select a table or range	
Table/Range: Training History'!\$A\$1:\$L\$1435	<b>E</b>
Use an external data source	
Choose Connection	
Connection name:	
Choose where you want the PivotTable report to be placed -	
New Worksheet	
Existing Worksheet	
Location:	1
ОК	Cancel

- 2 The range of your data should be entered automatically, modify, if not correct.
- 3 Select whether the pivot table is to be placed on a new worksheet or within your existing worksheet.
- 4 Click 'OK'.

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16           17           18           19           20           21           22           23           24           25           26           27           28           29           30											Drag fields betw Preport Filts Row Labels	een areas below: er :	Column Labels Σ Values
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5 You need to drag (or tick) the 'Fields' from the right hand side, onto the appropriate lower part of the table (areas marked 'Drag Fields Between Areas Below') & into the 'Row', 'Column', 'Values' areas.

VALUES	This field contains the data that you want to summarise (often a numeric field).
ROW	This is the field that you want to appear as rows with labels down the side of the table.
COLUMN	This is the field that you want to appear as columns with labels across the top of the table.
REPORT FILTER	See later.

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4	Row Labels	Brooks Direct Training Training		HT Training	Jigsaw	Nomas	Pearson Training	Seymour Training	Spark	Training 4U	Grand Total		
5 6 7 8 9 10 11	Finance Health & Safety HR Main Office Production F1 Production F2 Purchasing	265 180 315 630 3095 2273 425	230 960 480 1545 4255 4295 330	205 190 200 795 2570 2090 120	905 630 730 880 3520 2720 485	410 380 480 1440 6893 6355 370	7000 7550	490 790 500 850 4350 4093 380	280 230 380 330 1400 1290 180	1025 895 615 2238 9982 8821 815	3810 4255 3700 8708 43065 39487 3105		
12 13 14 15	Grand Total	7183	12095	6170	9870	16328	14550	11453	4090	24391	106130		
16 17 18 19 20													

The Pivot Table is created (next page).

7 You can have several field headings, in any one of these areas. Example below has 'Dept', 'Group' & 'Course', in the 'Row' area.

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4	Row Labels	Brooks Training	Direct Training	HT Training	Jigsaw	Nomas	Pearson Training	Seymour Training	Spark	Training 4	U Grand Total	=
5	Finance	265	230	205	905	410		490	280	1025	3810	
6	■Health & Safety	60			400			60	280	400	1200	
7	Electrical Awareness				400				200	100	700	_
8	Health & Safety	60						60		60	180	_
9	Manual Handling								80	240	320	_
10	BIT	135	110	75	325	410		360		445	1860	_
11	MS Access									125	125	
12	MS Excel	60	60	75	125	210		300			830	
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10	Negetiating Skills	70	50	70				70		50	250	
20	Procentation Skills	10	10	60	180			10		60	300	_
21	Health & Safety	180	960	190	630	380		790	230	895	4255	
22	Health & Safety	60	580	150	200	500		180	230	220	1470	
23	Electrical Awareness		500		200			100	70	220	870	
24	Health & Safety	60			200					60	120	
25	Manual Handling		80					80	160	160	480	
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28	MS Access					60				75	135	
20	MS Event	Color Data / Fr			Abson	co Data 2	010 / T	ASO National Histor	ouf 4	60	033	

## **Creating Pivot Filters**

As it is not possible to read text in three-dimensions, all the fields that you want to see in a pivot Table are 'squashed' into the row or column positions.

However, it is possible to create a third dimension to provide added flexibility to your data. This is done by creating a Pivot Filter.

To create a Pivot Filter ;

- 1 Start the Pivot Table Wizard.
- 2 Complete steps as described previously.
- 3 In Step 5, move the field that you want to filter to the 'Report Filter' area.
- 4 Continue as described previously.

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3	Sum of Cost	Column Labels 👻					-							
4	Row Labels	Brooks Training	Direct Training	HT Training	Jigsaw	Nomas	Pearson Training	Seymour Training	Spark	Training 4U G	rand Total			
5	Finance	265	230	205	905	410		490	280	1025	3810			
6											1055			
	Health & Safety	180	960	190	630	380		790	230	895	4255			
7	Health & Safety HR	180 315	960 480	190 200	630 730	380 480		790 500	230 380	895 615	4255 3700			
7 8	Health & Safety HR Main Office	180 315 630	960 480 1545	190 200 795	630 730 880	380 480 1440		790 500 850	230 380 330	895 615 2238	4255 3700 8708			
7 8 9	Health & Safety HR Main Office Production F1	180 315 630 3095	960 480 1545 4255	190 200 795 2570	630 730 880 3520	380 480 1440 6893	7000	790 500 850 4350	230 380 330 1400	895 615 2238 9982	4255 3700 8708 43065			
7 8 9 10	Health & Safety HR Main Office Production F1 Production F2	180 315 630 3095 2273	960 480 1545 4255 4295	190 200 795 2570 2090	630 730 880 3520 2720	380 480 1440 6893 6355	7000 7550	790 500 850 4350 4093	230 380 330 1400 1290	895 615 2238 9982 8821	4255 3700 8708 43065 39487			
7 8 9 10 11	Health & Safety HR Main Office Production F1 Production F2 Purchasing	180 315 630 3095 2273 425	960 480 1545 4255 4295 330	190 200 795 2570 2090 120	630 730 880 3520 2720 485	380 480 1440 6893 6355 370	7000 7550	790 500 850 4350 4093 380	230 380 330 1400 1290 180	895 615 2238 9982 8821 815	4255 3700 8708 43065 39487 3105			
7 8 9 10 11 12	Health & Safety HR Main Office Production F1 Production F2 Purchasing Grand Total	180 315 630 3095 2273 425 <b>7183</b>	960 480 1545 4255 4295 330 <b>12095</b>	190 200 795 2570 2090 120 <b>6170</b>	630 730 880 3520 2720 485 <b>9870</b>	380 480 1440 6893 6355 370 <b>16328</b>	7000 7550 <b>14550</b>	790 500 850 4350 4093 380 <b>11453</b>	230 380 330 1400 1290 180 <b>4090</b>	895 615 2238 9982 8821 815 <b>24391</b>	4255 3700 8708 43065 39487 3105 <b>106130</b>			
7 8 9 10 11 12 13	Health & Safety HR Main Office Production F1 Production F2 Purchasing Grand Total	180 315 630 3095 2273 425 <b>7183</b>	960 480 1545 4255 4295 330 <b>12095</b>	190 200 795 2570 2090 120 <b>6170</b>	630 730 880 3520 2720 485 <b>9870</b>	380 480 1440 6893 6355 370 <b>16328</b>	7000 7550 <b>14550</b>	790 500 850 4350 4093 380 <b>11453</b>	230 380 330 1400 1290 180 <b>4090</b>	895 615 2238 9982 8821 815 <b>24391</b>	4255 3700 8708 43065 39487 3105 <b>106130</b>			
7 8 9 10 11 12 13 14	Health & Safety HR Main Office Production F1 Production F2 Purchasing Grand Total	180 315 630 3095 2273 425 <b>7183</b>	960 480 1545 4255 4295 330 <b>12095</b>	190 200 795 2570 2090 120 <b>6170</b>	630 730 880 3520 2720 485 <b>9870</b>	380 480 1440 6893 6355 370 <b>16328</b>	7000 7550 <b>14550</b>	790 500 850 4350 4093 380 <b>11453</b>	230 380 330 1400 1290 180 <b>4090</b>	895 615 2238 9982 8821 815 <b>24391</b>	4255 3700 8708 43065 39487 3105 <b>106130</b>			
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5 In the above example the 'Course' field has been added to the 'Filter field, so that the training can be filtered by 'Course'.

## **Changing Date Grouping**

If a 'Date' field is used in a Pivot Table, it does not automatically 'group' data by month or year. Therefore, you need to set the grouping level, by right clicking on the 'Date' area & selecting 'Group'.



You can then set the level required, e.g. 'Months', 'Quarters' etc.

## Adding Sub Totals

If 'Sub-Totals' are not automatically displayed, it is possible to add them manually, in the example (over) the 'Annual' sub-totals do not appear automatically.

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5	<b>■2007</b>																
6	Fina	ance		13	35	50		275	275		240		385	1360			
7	Hea	alth & S	afety	12	20			250	210		300		185	1065			
8	HR			12	20			170	360		240		60	950			
9	Mai	n Office	•	17	70	345		210	910		110		728	2473			
10	Pro	duction	F1	12	75	1100		1045	5303		1000		4027	13750			
11	Pro	duction	F2	10	88	680		720	5175		788		3726	12177			
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15	Hea	alth & S	afety	6	0	140		160			100	160	280	900			_
16	HR			6	0	140		160				300	240	900			-
17	Mai	n Office		14	10	130	160	100			60		260	850			_
18	Pro	duction	F1	31	10	830	580	860			1060	520	2050	6210			-
19	Pro	duction	F2	26	50	550	600	570			1600	260	1770	5610			-
20	Pur	chasing		12	20	70		210				180	300	880			-
21	<b>⊒</b> 2009			7	0	50	400	000			70	400	400	000			-
22	Fina	ance		1	U	50	130	200			/0	100	180	800			
23	Hea	iith & S	arety	~	•	340	130	100			150	80	250	970			
24	нк			6	U	60	140	280			140	80	130	890			

#### To add them ;

1 Right click onto the relevant 'Field' heading – 'Years' in this example & select 'Field Settings'.

Field Settings			? ×
Source Name: Years			
Custom Name: Years			
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- 2 Select 'Subtotals....Automatic'
- 3 Click 'OK'.

## **Re-Designing A Pivot Table**

There are 2 Custom Tabs, that are available when using a Pivot Table.

## **Pivot Table Tools – Options**

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## **Pivot Table Tools – Design**

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Commonly, this tab is used for selecting a particular colour scheme, 'PivotTable Style', for your pivot table.

## Drilling Down Into The Data In A Pivot Table

To see the 'underlying' data, in the Pivot Table, simply double click in the Pivot Table data. For example, to see the 'Employees Trained' in HR, by the 'Nomas' training provider, double click in the appropriate cell e.g. 480 (below) & the data will be copied into a new sheet.

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4	Row Labels	Bro	oks Training	Traini	HT Training	Jigsaw	Nomas	Pearson Training	Seymour	Spark	Training 4U	Grand Total	
4	Row Labels	Bro	oks Training 265	Traini ng 230	HT Training 205	Jigsaw 905	Nomas 410	Pearson	Seymour Training 490	Spark 280	Training 4U 1025	Grand Total 3810	
4 5 6	Row Labels Finance Health & Safety	Bro	oks Training 265 180	Traini ng 230 960	HT Training 205 190	Jigsaw 905 630	Nomas 410 300	Pearson Training	Seymour Training 490 790	<b>Spark</b> 280 230	Training 4U 1025 895	Grand Total 3810 4255	
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4 5 6 7 8 9	Row Labels Finance Health & Safety HR Main Office Production F1	Bro	oks Training 265 180 315 630 3095	Traini ng 230 960 480 1545 4255	HT Training 205 190 200 795 2570	905 630 730 880 3520	Nomas 410 399 480 1440 6893	Pearson Training 7000	Seymour Training 490 790 500 850 4350	Spark 280 230 380 330 1400	Training 4U 1025 895 615 2238 9982	Grand Total 3810 4255 3700 8708 43065	
4 5 6 7 8 9 10	Row Labels Finance Health & Safety HR Main Office Production F1 Production F2	Bro	oks Training 265 180 315 630 3095 2273	Traini ng 230 960 480 1545 4255 4295	HT Training 205 190 200 795 2570 2090	905 630 730 880 3520 2720	Nomas 410 300 480 1440 6893 6355	Pearson Training 7000 7550	Seymour Training 490 790 500 850 4350 4093	Spark 280 230 380 330 1400 1290	Training 4U 1025 895 615 2238 9982 8821	Grand Total 3810 4255 3700 8708 43065 39487	
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#### Slicers

Slicers are easy-to-use filtering components, that contain a set of buttons that enable you to quickly filter the data in a PivotTable, without the need to open drop-down lists to find the items that you want to filter.

When you use a regular PivotTable filter to filter on multiple items, the filter indicates only that multiple items are filtered, and you have to open a drop-down list to find the filtering details. However, a slicer clearly labels the filter that is applied and provides details so that you can easily understand the data that is displayed in the filtered PivotTable report.

## **Create A Slicer In An Existing Pivot Table**

- 1 Click anywhere in the PivotTable, for which you want to create a slicer.
- 2 On the 'Options' tab, click 'Insert Slicer'.



- 3 In the 'Insert Slicers' dialog box, select the check box of the PivotTable fields for which you want to create a slicer.
- 4 Click 'OK'.
- 5 A 'slicer' is displayed for every field that you selected.
- 6 In each slicer, click the items on which you want to filter.

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- 7 To select more than one item, hold down CTRL, and then click the items on which you want to filter.
- 8 Click an item in the 'Slicer', to see the Pivot Table data.

#### **Format A Slicer**

- 1 Click the slicer that you want to format.
- 2 This displays the 'Slicer Tools', adding an 'Options' tab.
- 3 On the 'Options' tab, click the style that you want.

## **Delete A Slicer**

Do one of the following ;

- 1 Click the slicer, and then press 'DELETE'.
- 2 Right-click the slicer, and then click 'Remove <Name of slicer>'.

## **Updating A Pivot Table**

The Pivot Table does not change when you update your data in the source list. You can update your Pivot Table, by ;

- 1 Selecting any cell within the Pivot Table.
- 2 Click the 'Refresh' icon, in the 'Pivot Table Tools' tab.

## **Creating A Chart From A Pivot Table**

You can create a chart linked to a pivot Table.

- 1 Select a cell within the Pivot Table data avoid selecting any of the field tabs as this will move them within the table.
- 2 Click the 'Pivot Chart' icon, in the 'Pivot Table Tools' tab.
- 3 Select the type of chart you require & click 'OK'.
- 4 The chart will be created on your existing sheet.



## **Re-Organising The Pivot Table**

#### Adding Columns And Rows

To enhance the amount of detail available in your Pivot Table, you can add more fields. Adding row and column fields expands the table and widens the view. In contrast to adding a Filter, which narrows the scope.

To add a column or row ;

- 1 Select a cell in your Pivot Table.
- 2 Move the 'Field' that you want to move into the appropriate area (ROW, COLUMN etc).

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## **Removing Columns And Rows**

1 To remove a row or column, drag it back onto the top half of the 'Field List'.

## **Changing The Summary Functions**

Excel summarises data by summing numeric values (if the data fields contain text, the Pivot Table displays counts of the values). You can change the summary function or calculation type ;

1 Select a heading in the 'Values' area of the 'Field List'.



2 Click the drop down arrow & select 'Value Field Settings'.

Value Field Settings
Source Name: Cost
Custom Name: Sum of Cost
Summarize Values By Show Values As
Summarize value field by
Choose the type of calculation that you want to use to summarize data from the selected field
Sum
Average E
Max
Product
Number Format OK Cancel

3 In the 'Summarise by' list, select the desired summary function.

## Hiding / Displaying Sub & Grand Totals

The 'Sub Totals' & 'Grand Totals' can be controlled from the 'Design' tab.

#### Sub – Totals



## **Grand Totals**



## **APPENDIX 1 - FUNCTION KEYS**

The following lists contain function key, CTRL combination shortcut keys and some other common shortcut keys, along with descriptions of their functionality.

## **Function Keys**

Кеу	Description
F1	Displays the <b>Microsoft Office Excel Help</b> task pane. CTRL+F1 displays or hides the ribbon. ALT+F1 creates a chart of the data in the current range. ALT+SHIFT+F1 inserts a new worksheet.
F2	Edits the active cell and positions the insertion point at the end of the cell contents. It also moves the insertion point into the Formula Bar when editing in a cell is turned off. SHIFT+F2 adds or edits a cell comment. CTRL+F2 displays the Print Preview window.
F3	Displays the <b>Paste Name</b> dialog box. SHIFT+F3 displays the <b>Insert Function</b> dialog box.
F4	Repeats the last command or action, if possible. CTRL+F4 closes the selected workbook window.
F5	Displays the <b>Go To</b> dialog box. CTRL+F5 restores the window size of the selected workbook window.
F6	Switches between the worksheet, ribbon, task pane, and Zoom controls. In a worksheet that has been split ( <b>View</b> menu, <b>Manage This Window</b> , <b>Freeze Panes</b> , <b>Split Window</b> command), F6 includes the split panes when switching between panes and the ribbon area. SHIFT+F6 switches between the worksheet, Zoom controls, task pane, and ribbon. CTRL+F6 switches to the next workbook window when more than one workbook window is open.

F7	Displays the <b>Spelling</b> dialog box to check spelling in the active worksheet or selected range. CTRL+F7 performs the <b>Move</b> command on the workbook window when it is not maximized. Use the arrow keys to move the window, and when finished press ENTER, or ESC to cancel.
F8	Turns extend mode on or off. In extend mode, <b>Extended Selection</b> appears in the status line, and the arrow keys extend the selection. SHIFT+F8 enables you to add a nonadjacent cell or range to a selection of cells by using the arrow keys. CTRL+F8 performs the <b>Size</b> command (on the <b>Control</b> menu for the workbook window) when a workbook is not maximized. ALT+F8 displays the <b>Macro</b> dialog box to create, run, edit, or delete a macro.
F9	Calculates all worksheets in all open workbooks. SHIFT+F9 calculates the active worksheet. CTRL+ALT+F9 calculates all worksheets in all open workbooks, regardless of whether they have changed since the last calculation. CTRL+ALT+SHIFT+F9 rechecks dependent formulas, and then calculates all cells in all open workbooks, including cells not marked as needing to be calculated. CTRL+F9 minimizes a workbook window to an icon.
F10	Turns key tips on or off. SHIFT+F10 displays the shortcut menu for a selected item. ALT+SHIFT+F10 displays the menu or message for a smart tag. If more than one smart tag is present, it switches to the next smart tag and displays its menu or message. CTRL+F10 maximizes or restores the selected workbook window.
F11	Creates a chart of the data in the current range. SHIFT+F11 inserts a new worksheet. ALT+F11 opens the Microsoft Visual Basic Editor, in which you can create a macro by using Visual Basic for Applications (VBA).
F12	Displays the <b>Save As</b> dialog box.

## **CTRL Combination Shortcut Keys**

Кеу	Description
CTRL+SHIFT+(	Unhides any hidden rows within the selection.
CTRL+SHIFT+)	Unhides any hidden columns within the selection.
CTRL+SHIFT+&	Applies the outline border to the selected cells.
CTRL+SHIFT_	Removes the outline border from the selected cells.
CTRL+SHIFT+~	Applies the General number format.
CTRL+SHIFT+\$	Applies the Currency format with two decimal places (negative numbers in parentheses).
CTRL+SHIFT+%	Applies the Percentage format with no decimal places.
CTRL+SHIFT+^	Applies the Exponential number format with two decimal places.
CTRL+SHIFT+#	Applies the Date format with the day, month, and year.
CTRL+SHIFT+@	Applies the Time format with the hour and minute, and AM or PM.
CTRL+SHIFT+!	Applies the Number format with two decimal places, thousands separator, and minus sign (-) for negative values.
CTRL+SHIFT+*	Selects the current region around the active cell (the data area enclosed by blank rows and blank columns). In a PivotTable, it selects the entire PivotTable report.
CTRL+SHIFT+:	Enters the current time.
CTRL+SHIFT+"	Copies the value from the cell above the active cell into the cell or the Formula Bar.
CTRL+SHIFT+Plus (+)	Displays the <b>Insert</b> dialog box to insert blank cells.
CTRL+Minus (-)	Displays the <b>Delete</b> dialog box to delete the selected cells.
CTRL+;	Enters the current date.
CTRL+`	Alternates between displaying cell values and displaying formulas in the worksheet.
CTRL+'	Copies a formula from the cell above the active cell into the cell or the Formula Bar.

CTRL+1	Displays the Format Cells dialog box.
CTRL+2	Applies or removes bold formatting.
CTRL+3	Applies or removes italic formatting.
CTRL+4	Applies or removes underlining.
CTRL+5	Applies or removes strikethrough.
CTRL+6	Alternates between hiding objects, displaying objects, and displaying placeholders for objects.
CTRL+8	Displays or hides the outline symbols.
CTRL+9	Hides the selected rows.
CTRL+0	Hides the selected columns.
CTRL+A	Selects the entire worksheet. If the worksheet contains data, CTRL+A selects the current region. Pressing CTRL+A a second time selects the current region and its summary rows. Pressing CTRL+A a third time selects the entire worksheet. When the insertion point is to the right of a function name in a formula, displays the <b>Function Arguments</b> dialog box. CTRL+SHIFT+A inserts the argument names and parentheses when the insertion point is to the right of a function name in a formula.
CTRL+B	Applies or removes bold formatting.
CTRL+C	Copies the selected cells. CTRL+C followed by another CTRL+C displays the Clipboard.
CTRL+D	Uses the <b>Fill Down</b> command to copy the contents and format of the topmost cell of a selected range into the cells below.
CTRL+F	Displays the <b>Find and Replace</b> dialog box, with the <b>Find</b> tab selected. SHIFT+F5 also displays this tab, while SHIFT+F4 repeats the last <b>Find</b> action. CTRL+SHIFT+F opens the <b>Format Cells</b> dialog box with the <b>Font</b> tab selected.
CTRL+G	Displays the <b>Go To</b> dialog box. F5 also displays this dialog box.

CTRL+H	Displays the <b>Find and Replace</b> dialog box, with the <b>Replace</b> tab selected.
CTRL+I	Applies or removes italic formatting.
CTRL+K	Displays the <b>Insert Hyperlink</b> dialog box for new hyperlinks or the <b>Edit Hyperlink</b> dialog box for selected existing hyperlinks.
CTRL+N	Creates a new, blank workbook.
CTRL+O	Displays the <b>Open</b> dialog box to open or find a file. CTRL+SHIFT+O selects all cells that contain comments.
CTRL+P	Displays the <b>Print</b> dialog box. CTRL+SHIFT+P opens the <b>Format Cells</b> dialog box with the <b>Font</b> tab selected.
CTRL+R	Uses the <b>Fill Right</b> command to copy the contents and format of the leftmost cell of a selected range into the cells to the right.
CTRL+S	Saves the active file with its current file name, location, and file format.
CTRL+T	Displays the <b>Create Table</b> dialog box.
CTRL+U	Applies or removes underlining. CTRL+SHIFT+U switches between expanding and collapsing of the formula bar.
CTRL+V	Inserts the contents of the Clipboard at the insertion point and replaces any selection. Available only after you have cut or copied an object, text, or cell contents.
CTRL+W	Closes the selected workbook window.
CTRL+X	Cuts the selected cells.
CTRL+Y	Repeats the last command or action, if possible.
CTRL+Z	Uses the <b>Undo</b> command to reverse the last command or to delete the last entry that you typed. CTRL+SHIFT+Z uses the <b>Undo</b> or <b>Redo</b> command to reverse or restore the last automatic correction when AutoCorrect Smart Tags are displayed.

## **Other Useful Shortcut Keys**

Кеу	Description
ARROW KEYS	Move one cell up, down, left, or right in a worksheet. CTRL+ARROW KEY moves to the edge of the current data region in a worksheet. SHIFT+ARROW KEY extends the selection of cells by one cell. CTRL+SHIFT+ARROW KEY extends the selection of cells to the last nonblank cell in the same column or row as the active cell, or if the next cell is blank, extends the selection to the next nonblank cell. LEFT ARROW or RIGHT ARROW selects the tab to the left or right when the ribbon is selected. When a submenu is open or selected, these arrow keys switch between the main menu and the submenu. When a ribbon tab is selected, these keys navigate the tab buttons. DOWN ARROW or UP ARROW selects the next or previous command when a menu or submenu is open. When a ribbon tab is selected, these keys navigate up or down the tab group. In a dialog box, arrow keys move between options in an open drop-down list, or between options in a group of options. DOWN ARROW or ALT+DOWN ARROW opens a selected drop-down list.
BACKSPACE	Deletes one character to the left in the Formula Bar. Also clears the content of the active cell. In cell editing mode, it deletes the character to the left of insertion point.
DELETE	Removes the cell contents (data and formulas) from selected cells without affecting cell formats or comments. In cell editing mode, deletes character to the right of the insertion point.
END	Moves to the cell in the lower-right corner of the window when SCROLL LOCK is turned on. Also selects the last command on the menu when a menu or submenu is visible. CTRL+END moves to the last cell on a worksheet, in the lowest used row of the rightmost used column. If the cursor is in the formula bar, CTRL+END moves the cursor to the end of the text. CTRL+SHIFT+END extends the selection of cells to the last used cell on the worksheet (lower-right corner). If the cursor is in the formula bar, CTRL+SHIFT+END selects all text in the formula bar from the cursor position to the end—this does not affect the height of the formula bar.

ENTER	Completes a cell entry from the cell or the Formula Bar, and selects the cell below (by default).
	In a data form, it moves to the first field in the next record. Opens a selected menu (press F10 to activate the menu bar) or performs the action for a selected command. In a dialog box, it performs the action for the default command button in the dialog box (the button with the bold outline, often the <b>OK</b> button). ALT+ENTER starts a new line in the same cell. CTRL+ENTER fills the selected cell range with the current entry. SHIFT+ENTER completes a cell entry and selects the cell above.
ESC	Cancels an entry in the cell or Formula Bar. Closes an open menu or submenu, dialog box, or message window. It also closes full screen mode when this mode has been applied, and returns to normal screen mode to display the Ribbon and status bar again.
HOME	Moves to the beginning of a row in a worksheet. Moves to the cell in the upper-left corner of the window when SCROLL LOCK is turned on. Selects the first command on the menu when a menu or submenu is visible. CTRL+HOME moves to the beginning of a worksheet. CTRL+SHIFT+HOME extends the selection of cells to the beginning of the worksheet.
PAGE DOWN	Moves one screen down in a worksheet.
PAGE DOWN	Moves one screen down in a worksheet. ALT+PAGE DOWN moves one screen to the right in a worksheet. CTRL+PAGE DOWN moves to the next sheet in a workbook. CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook.
PAGE DOWN PAGE UP	Moves one screen down in a worksheet. ALT+PAGE DOWN moves one screen to the right in a worksheet. CTRL+PAGE DOWN moves to the next sheet in a workbook. CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook. Moves one screen up in a worksheet.
PAGE DOWN PAGE UP	Moves one screen down in a worksheet. ALT+PAGE DOWN moves one screen to the right in a worksheet. CTRL+PAGE DOWN moves to the next sheet in a workbook. CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook. Moves one screen up in a worksheet. ALT+PAGE UP moves one screen to the left in a worksheet. CTRL+PAGE UP moves to the previous sheet in a workbook. CTRL+SHIFT+PAGE UP selects the current & previous sheet in a workbook.
PAGE DOWN PAGE UP SPACEBAR	<ul> <li>Moves one screen down in a worksheet.</li> <li>ALT+PAGE DOWN moves one screen to the right in a worksheet.</li> <li>CTRL+PAGE DOWN moves to the next sheet in a workbook.</li> <li>CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook.</li> <li>Moves one screen up in a worksheet.</li> <li>ALT+PAGE UP moves one screen to the left in a worksheet.</li> <li>CTRL+PAGE UP moves to the previous sheet in a workbook.</li> <li>CTRL+SHIFT+PAGE UP selects the current &amp; previous sheet in a workbook.</li> <li>In a dialog box, performs the action for the selected button, or selects or clears a check box.</li> </ul>
PAGE DOWN PAGE UP SPACEBAR	<ul> <li>Moves one screen down in a worksheet.</li> <li>ALT+PAGE DOWN moves one screen to the right in a worksheet. CTRL+PAGE DOWN moves to the next sheet in a workbook.</li> <li>CTRL+SHIFT+PAGE DOWN selects the current and next sheet in a workbook.</li> <li>Moves one screen up in a worksheet.</li> <li>ALT+PAGE UP moves one screen to the left in a worksheet. CTRL+PAGE UP moves to the previous sheet in a workbook.</li> <li>CTRL+PAGE UP moves to the previous sheet in a workbook.</li> <li>TRL+SHIFT+PAGE UP selects the current &amp; previous sheet in a workbook.</li> <li>In a dialog box, performs the action for the selected button, or selects or clears a check box.</li> <li>CTRL+SPACEBAR selects an entire column in a worksheet. SHIFT+SPACEBAR selects an entire row in a worksheet.</li> <li>CTRL+SHIFT+SPACEBAR selects the entire worksheet.</li> </ul>

	region. Pressing CTRL+SHIFT+SPACEBAR a second time selects the current region and its summary rows. Pressing CTRL+SHIFT+SPACEBAR a third time selects the entire worksheet. When an object is selected, CTRL+SHIFT+SPACEBAR selects all objects on a worksheet. ALT+SPACEBAR displays the <b>Control</b> menu for the Microsoft Office Excel window.
TAB	Moves one cell to the right in a worksheet. Moves between unlocked cells in a protected worksheet. Moves to the next option or option group in a dialog box. SHIFT+TAB moves to the previous cell in a worksheet or the previous option in a dialog box. CTRL+TAB switches to the next tab in dialog box. CTRL+SHIFT+TAB switches to the previous tab in a dialog box.

## Notes

These pages are for your own personal notes ;