

## Fixtures List and League Table

### Introduction

If you ever read sports magazines and the sports pages in various newspapers you will no doubt have seen those tables that show an entire league's fixtures in just one table. For example, in a league such as the Barclays Premier Football League in England there are twenty teams and the fixtures tables is a 20 by 20 matrix.

Then there's the league table: the positions and performance of every team in the league or division: again in terms of the Barclays Premier Football League that can be at least a 20 by 6 matrix,

The question is, how can these two tables or matrices be prepared using Excel 2007? Well, that's what this page is here to tell you.

### Fixtures List: using a Pivot Table

This section assumes you have read part one of the book **Excel 2007 with Excel Master** and chapter 4 in part two.

	A	B	C	D
1	<b>Fixtures Table</b>			
2				
3	<b>Date</b>	<b>Home Team</b>	<b>Away Team</b>	
4	01/08/2009	Burnley	West Ham	
5	01/08/2009	Sunderland	Everton	
6	01/08/2009	Man Spew	Arsenal	
7	01/08/2009	Man City	Tottenham	
8	01/08/2009	Bolton	Hull City	
9	01/08/2009	Liverpool	Portsmouth	
10	01/08/2009	Chelsea	Stoke City	
11	01/08/2009	Fulham	Wigan Ath	
12	01/08/2009	Birmingham City	Blackburn	
13	01/08/2009	Wolves	Aston Villa	
14	08/08/2009	West Ham	Burnley	
15	08/08/2009	Everton	Sunderland	
16	08/08/2009	Arsenal	Man Spew	
17	08/08/2009	Tottenham	Man City	
18	08/08/2009	Hull City	Bolton	
19	08/08/2009	Portsmouth	Liverpool	
20	08/08/2009	Stoke City	Chelsea	
21	08/08/2009	Wigan Ath	Fulham	
22	08/08/2009	Blackburn	Birmingham City	
23	08/08/2009	Aston Villa	Wolves	

Pivot Tables are so flexible that they can be used for myriad things and they can be prepared from the simplest of tables or databases. A fixtures list is living proof of the simple origins of a Pivot Table.

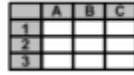
You can download the Excel 2007 file on which this page is based from the link at the end of this page to see how we have done what we have done.

Here is the screenshot of the assumed fixture list of the Football League:

This is all we need:

- date
- home team and
- away team

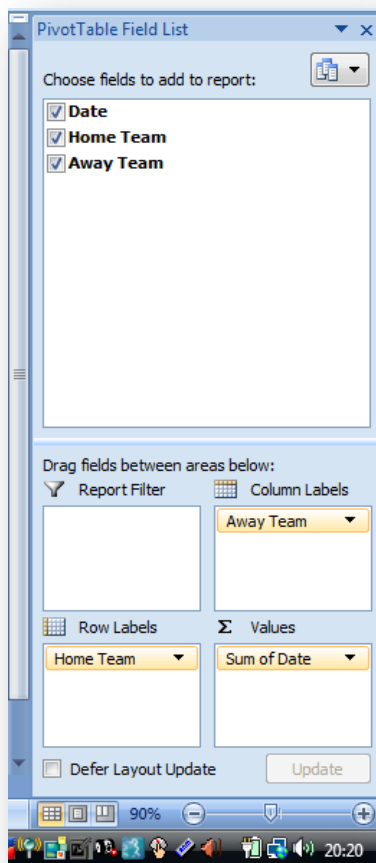
that's it. Here is a screenshot of the fixtures table:



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3	<b>Sum of Date</b>													
4		<b>Arsenal</b>	<b>Aston Villa</b>	<b>Birmingham City</b>	<b>Blackburn</b>	<b>Bolton</b>	<b>Burnley</b>	<b>Chelsea</b>	<b>Everton</b>	<b>Fulham</b>	<b>Hull City</b>	<b>Liverpool</b>	<b>Man City</b>	<b>Man Spew</b>
5	Arsenal						22/08							08/08
6	Aston Villa			15/08						22/08				
7	Birmingham City		13/08		01/08									
8	Blackburn			08/08				22/08		15/08				
9	Bolton										01/08			
10	Burnley	18/08							13/08					
11	Chelsea				18/08									
12	Everton						15/08							
13	Fulham		18/08		13/08									
14	Hull City					08/08							15/08	22/08
15	Liverpool													
16	Man City										13/08			
17	Man Spew	01/08									18/08			
18	Portsmouth					15/08						08/08	22/08	
19	Stoke City					22/08		08/08				15/08		
20	Sunderland	13/08							01/08					
21	Tottenham												08/08	15/08
22	West Ham			22/08			08/08							
23	Wigan Ath							15/08		08/08		22/08		
24	Wolves		01/08						18/08					

This table is just part of the entire table and we have not simulated the entire season, hence the gaps in the table.

How did we prepare the fixture list? Like this:



**Complete** the listing of dates, home and away teams ... it does not even need to be in chronological order  
With your cursor in your table:

**Insert** ... Tables ... Pivot Table

**Ensure** Excel 2007 has selected the correct range for you  
**Click** OK

You are now **presented with** your blank Pivot Table and the Pivot Table Field List

**Select** Date and Home Team and Away Team and arrange them as follows:

- The away team is in the Column Labels area
- The home team is in the Row Labels area
- The away team is in the Values area

That's it except that you probably need to click **once** on Sum of Date to format it ... bear in mind it **might** say Count of Date by default and you need to change that too.

That's all there is to it. If a fixture's date changes, you can just change it in the source table then click Options Refresh.

If you have added some fixtures or even deleted them, you would also have to click Options ... Change Data Source ... Change Data Source and then make the necessary changes.



Look at the Excel file now: look in the **for\_pivot** and **pivot\_fixtures** sheets. Note the links between these two sheets and the input sheet.

## League Tables: programming with Excel 2007

A league table should tell us who leads the league, the number of games they have played and won and drawn and lost and the number of points they currently have. There are other aspects to some league tables but this is what we are demonstrating here. This table and all of the formulas within it are to be found in the Excel 2007 file on which this page is based: the link to that file can be found at the bottom of this page.

### The Data

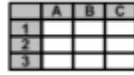
Whilst the data for the league table is basically the same as for the fixture list, there is a vital addition: now the games have been played and won, drawn or lost ... the basic table is now found in the for\_table\_1 work sheet in the Excel 2007 file. The table is on the same sheet, purely for demonstration purposes.

We have actually prepared two versions of the league table: using the same data preparing the same table but doing so in a different way. The following screenshot relates to version one in the for\_table\_1 work sheet.

	A	B	C	D	E	F	G	H
1	League Table							
2								
3	Date	Home Team	Away Team	Home Score	Away Score		Home Points	Away Points
4	01/08/2009	Burnley	West Ham	2	0		3	0
5	01/08/2009	Sunderland	Everton	1	3		0	3
6	01/08/2009	Man Spew	Arsenal	1	2		0	3
7	01/08/2009	Man City	Tottenham	3	2		3	0
8	01/08/2009	Bolton	Hull City	0	0		1	1
9	01/08/2009	Liverpool	Portsmouth	4	0		3	0
10	01/08/2009	Chelsea	Stoke City	6	1		3	0
11	01/08/2009	Fulham	Wigan Ath	3	0		3	0
12	01/08/2009	Birmingham City	Blackburn	1	2		0	3
13	01/08/2009	Wolves	Aston Villa	1	1		1	1
14	08/08/2009	West Ham	Burnley	0	2		0	3
15	08/08/2009	Everton	Sunderland	3	1		3	0
16	08/08/2009	Arsenal	Man Spew	2	1		3	0
17	08/08/2009	Tottenham	Man City	2	3		0	3
18	08/08/2009	Hull City	Bolton	0	0		1	1
19	08/08/2009	Portsmouth	Liverpool	0	4		0	3
20	08/08/2009	Stoke City	Chelsea	1	6		0	3
21	08/08/2009	Wigan Ath	Fulham	0	3		0	3
22	08/08/2009	Blackburn	Birmingham	2	1		3	0
23	08/08/2009	Aston Villa	Wolves	1	1		1	1

We have added the home and away scores and have also shown the points won by the home and/or away team. This information is the basis of the league table.

### League Table 1



	J	K	L	M	N	O	P
1							
2							
3		<b>Played</b>	<b>Won</b>	<b>Drawn</b>	<b>Lost</b>	<b>GD</b>	<b>Points</b>
4	Burnley	6	6	0	0	12	18
5	Sunderland	6	0	0	6	6	0
6	Man Spew	6	0	0	6	6	0
7	Man City	6	6	0	0	18	18
8	Bolton	6	0	6	0	0	6
9	Liverpool	6	6	0	0	24	18
10	Chelsea	6	6	0	0	36	18
11	Fulham	6	6	0	0	18	18
12	Birmingham City	6	0	0	6	6	0
13	Wolves	6	0	6	0	6	6
14	West Ham	6	2	2	2	6	8
15	Everton	6	2	2	2	8	8
16	Arsenal	6	4	0	2	10	12
17	Tottenham	6	4	0	2	14	12
18	Hull City	6	2	2	2	8	8
19	Portsmouth	6	0	2	4	4	2
20	Stoke City	6	0	2	4	2	2
21	Wigan Ath	6	0	0	6	2	0
22	Blackburn	6	2	0	4	6	6
23	Aston Villa	6	2	2	2	6	8
24							

A traditional league table you should agree and here are some of the formulas used: again take a look at the spreadsheet for this page to study carefully what we have done:

	J	K	L
1			
2			
3		<b>Played</b>	
4	Burnley	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J4,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J4,\$H\$4:\$H\$63,"=3")
5	Sunderland	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J5,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J5,\$H\$4:\$H\$63,"=3")
6	Man Spew	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J6,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J6,\$H\$4:\$H\$63,"=3")
7	Man City	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J7,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J7,\$H\$4:\$H\$63,"=3")
8	Bolton	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J8,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J8,\$H\$4:\$H\$63,"=3")
9	Liverpool	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J9,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J9,\$H\$4:\$H\$63,"=3")
10	Chelsea	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=COUNTIFS(\$B\$4:\$B\$63,"="&J10,\$G\$4:\$G\$63,"=3")+COUNTIFS(\$C\$4:\$C\$63,"="&J10,\$H\$4:\$H\$63,"=3")

Note we have used both =COUNTIF(...) and =COUNTIFS(...) functions in preparing this table and you need to study them to see what we have done and why. Note also that =COUNTIFS(...) is new to Excel 2007.

Before you take a look at the second version of this league table, you should consider how you might prepare the table differently.

## League Table 2

Firstly, the basic data sheet is different from league table 1:

	A	B	C
1			
2			
3			

	A	B	C	D	E	F	G	H	I	J	K
1	<b>Fixtures Table</b>										
2											
3	<b>Date</b>	<b>Home Team</b>	<b>Away Team</b>	<b>Home Score</b>	<b>Away Score</b>	<b>Home Points</b>	<b>Away Points</b>	<b>Home Win</b>	<b>Away Win</b>	<b>NS Draw</b>	<b>S Draw</b>
4	01/08/2009	Burnley	West Ham	2	0	3	0	1			
5	01/08/2009	Sunderland	Everton	1	3	0	3		1		
6	01/08/2009	Man Spew	Arsenal	1	2	0	3		1		
7	01/08/2009	Man City	Tottenham	3	2	3	0	1			
8	01/08/2009	Bolton	Hull City	0	0	1	1			1	
9	01/08/2009	Liverpool	Portsmouth	4	0	3	0	1			
10	01/08/2009	Chelsea	Stoke City	6	1	3	0	1			
11	01/08/2009	Fulham	Wigan Ath	3	0	3	0	1			
12	01/08/2009	Birmingham City	Blackburn	1	2	0	3		1		
13	01/08/2009	Wolves	Aston Villa	1	1	1	1				1
14	08/08/2009	West Ham	Burnley	0	2	0	3		1		
15	08/08/2009	Everton	Sunderland	3	1	3	0	1			
16	08/08/2009	Arsenal	Man Spew	2	1	3	0	1			

In this case we have prepared additional columns from the basic results data: we have added columns to say whether the fixture resulted in

- a home win (1 = yes and empty = no)
- an away win
- an NS (no score) draw
- a score draw

Providing these additional columns means that the league table is prepared on a different basis as you can see now:

	G	H	I	J
2				
3	<b>Away Points</b>	<b>Home Win</b>	<b>Away Win</b>	<b>NS Draw</b>
4	=IF(AND(\$D4-\$E4=0,\$D4=0),1,IF(AND(\$D4-\$E4=0,\$D4>0),1,IF(\$D4<\$E4,3,0)))	=IF(D4>E4,1,"")	=IF(D4<E4,1,"")	=IF(AND(D4=E4,D4=0),1,"")
5	=IF(AND(\$D5-\$E5=0,\$D5=0),1,IF(AND(\$D5-\$E5=0,\$D5>0),1,IF(\$D5<\$E5,3,0)))	=IF(D5>E5,1,"")	=IF(D5<E5,1,"")	=IF(AND(D5=E5,D5=0),1,"")
6	=IF(AND(\$D6-\$E6=0,\$D6=0),1,IF(AND(\$D6-\$E6=0,\$D6>0),1,IF(\$D6<\$E6,3,0)))	=IF(D6>E6,1,"")	=IF(D6<E6,1,"")	=IF(AND(D6=E6,D6=0),1,"")
7	=IF(AND(\$D7-\$E7=0,\$D7=0),1,IF(AND(\$D7-\$E7=0,\$D7>0),1,IF(\$D7<\$E7,3,0)))	=IF(D7>E7,1,"")	=IF(D7<E7,1,"")	=IF(AND(D7=E7,D7=0),1,"")
8	=IF(AND(\$D8-\$E8=0,\$D8=0),1,IF(AND(\$D8-\$E8=0,\$D8>0),1,IF(\$D8<\$E8,3,0)))	=IF(D8>E8,1,"")	=IF(D8<E8,1,"")	=IF(AND(D8=E8,D8=0),1,"")
9	=IF(AND(\$D9-\$E9=0,\$D9=0),1,IF(AND(\$D9-\$E9=0,\$D9>0),1,IF(\$D9<\$E9,3,0)))	=IF(D9>E9,1,"")	=IF(D9<E9,1,"")	=IF(AND(D9=E9,D9=0),1,"")

	M	N	O	P	Q
2					
3		<b>Played</b>	<b>Won</b>	<b>Drawn</b>	
4	Burnley	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M4)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M4)	=N4-(O4+P4)
5	Sunderland	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M5)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M5)	=N5-(O5+P5)
6	Man Spew	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M6)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M6)	=N6-(O6+P6)
7	Man City	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M7)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M7)	=N7-(O7+P7)
8	Bolton	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M8)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M8)	=N8-(O8+P8)
9	Liverpool	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M9)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M9)	=N9-(O9+P9)
10	Chelsea	=COUNTIF(\$B\$4:\$C\$63,"Burnley")	=SUMIFS(\$H\$4:\$I\$63,\$B\$4:\$C\$63,""&M10)	=SUMIFS(\$J\$4:\$K\$63,\$B\$4:\$C\$63,""&M10)	=N10-(O10+P10)

Yet again see the Excel 2007 file to see the other columns in for\_table\_2 that are missing from this page. Notice that we have used =IF(AND(...)), =COUNTIF(...) and =SUMIFS(...) functions and remember that =SUMIFS(...) is new to Excel 2007.

	A	B	C
1			
2			
3			

---

## Conclusions

Whilst fixture lists and league tables are everyday tables that we are all used to seeing on a regular basis, preparing them in Excel 2007 does encourage us to use some basic Pivot Table programming for the fixture list and some relatively sophisticated programming for the league table. Moreover, we have demonstrated two methods for preparing the league table both of which, of course, give the same solution as each other but they do so in completely different ways.

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