Excel Q&A: Pivot table practice

Redskins

The file Redskin.xls holds the record for the team's 1996 season. Using a spreadsheet on sports statistics is one of the most obvious uses of the tool in journalism. Here are some practice questions to get you going.

Your job: To figure out whether the 'Skins do better at home than away. To help you, here are the steps you'll need:

1. Insert a column and figure out, for each game, whether the 'Skins won or lost. We'll give any ties to the 'Skins, since they need every win they can get.
2. Create a pivot table counting games and the percentage of games won in each category.

When you're done, try figuring out how to create formulas and pivot tables that will re-create many of the arcane statistics you see during games – the average rushing yards when the 'Skins win vs. lose, the number of interceptions away, etc.

Baseball salaries

The file Baseball.xls holds 1996 baseball salaries for each player. It includes their teams and the league.

1. Find the total, and average, salaries by team. Sort them in descending order to find the highest-paid.
2. Does the American League pay better than the National League?
3. Why isn't this a complete way to analyze sports salaries?

Phone calls

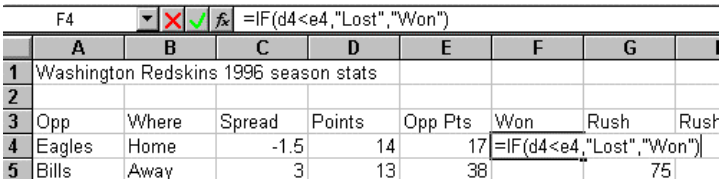
The file Phone.xls holds cell phone calls for four public officials. They've been coded by the day of the week (1=Sunday, 7=Saturday), and whether or not the official was likely at work during the call. (Calls between 6:30 am and 7:30 pm during weekdays were counted as during the work day.)

Create a pivot table that shows how the officials' time is split out – at work or not. You can play around with the grouping functions of pivot tables by including the time of day.

Pivot table answers

Setting up the spreadsheet

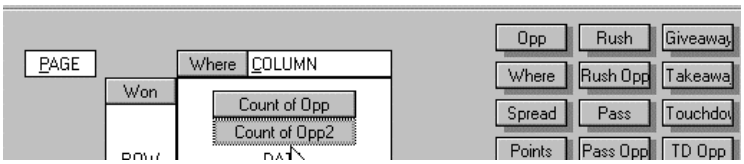
Insert a column, and use an =IF(condition, true answer, false answer) formula to figure out the won-lost:



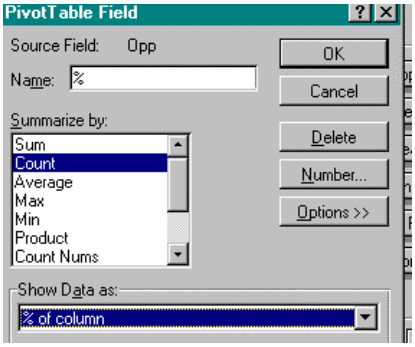
	A	B	C	D	E	F	G	
1	Washington Redskins 1996 season stats							
2								
3	Opp	Where	Spread	Points	Opp Pts	Won	Rush	Rush
4	Eagles	Home	-1.5	14	17	=IF(d4<e4,"Lost","Won")		
5	Bills	Away	3	13	38		75	

Create the pivot table

Begin the Pivot Table normally. You'll need two count fields:



The % of column is in the Show Data As box:

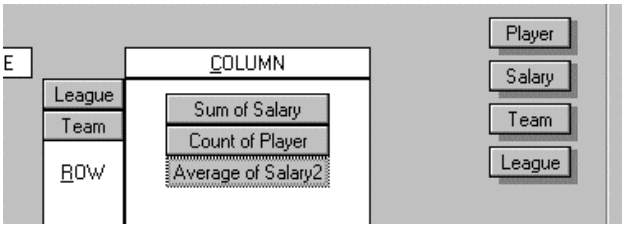


After some fiddling, it looks like this:

	A	B	C	D	E
1			Where		
2	Data	Won	Home	Away	Grand Total
3	%	Won	62.50%	50.00%	56.25%
4		Lost	37.50%	50.00%	43.75%
5	Count of O	Won	5	4	9
6		Lost	3	4	7
7	Total %		100.00%	100.00%	100.00%
8	Total Count of O		8	8	16
9					

Baseball salaries answers

Set up the pivot table to create the average of salaries, the sum of salaries and the number of players on each team. Put the League on top of the Team to show teams within leagues:



Creates this: :

	A	B	C	D	E	F
1			Data			
2	League	Team	Sum of Salary	Count of P	Average of Salary2	
3	AL	Bal	$49,358,503	25	1974340	
4		Bos	$39,676,000	29	1368138	
5		Cal	$26,892,500	30	896416.7	

To see just the leagues, drag the Team element up to A1, so it becomes a page.

	A	B	C	D
1	Team	(All)		
2				
3		Data		
4	League	Total	#	Avg sal
5	AL	$462,940,409	381	$1,215,067
6	NL	$439,835,388	388	$1,133,596
7	Grand Tota	$902,775,797	769	$1,173,961
8				

To sort by team, and still see which league each belongs in, try putting the League in the page element, and the Team in the column element. Then sort by the Avg Sal.

When you drag League back down, Excel will show each team twice – once as a detail row, and once as a total. Double-click on the Team heading (the gray button), and turn off subtotals to get this:

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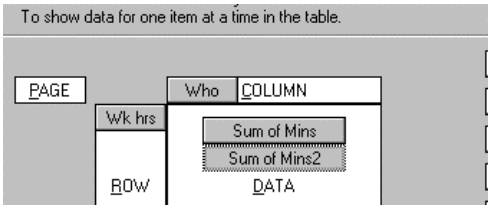
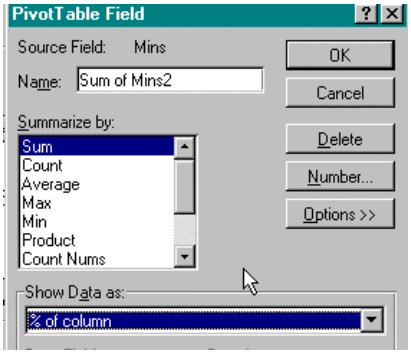
	A	B	C	D	E
3			Data		
4	Team	League	Tot sal	Avg sal	Num players
5	NYY	AL	$53,008,792	$53,008,792	29
6	Bal	AL	$49,358,503	$49,358,503	25
7	Atl	NL	$47,930,000	$47,930,000	26
8	Cle	AL	$46,244,127	$46,244,127	27
9	CWS	AL	$41,940,000	$41,940,000	25
10	Cin	NL	$40,719,334	$40,719,334	30
11	Bos	AL	$39,676,000	$39,676,000	29

Cell phone answers

Create your pivot table like a statistical crosstab. The independent variable, the thing that comes first, is the person. The dependent variable, the thing that comes second, is whether or not they use their cell phones during work hours:

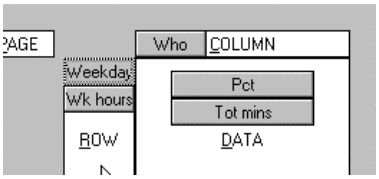




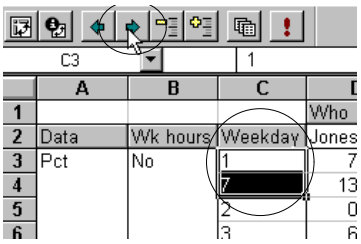
Creates this crosstab, after moving the Data element from the inside to the outside.

	A	B	C	D	E	F	G
1			Who				
2	Data	Wk hours	Jones	Remington	Smith	Wesson	Grand Total
3	Pct	No	33.91%	15.05%	32.43%	24.85%	30.29%
4		Yes	66.09%	84.95%	67.57%	75.15%	69.71%
5	Tot mins	No	197	14	36	42	289
6		Yes	384	79	75	127	665
7	Total Pct		100.00%	100.00%	100.00%	100.00%	100.00%
8	Total Tot mins		581	93	111	169	954

Add the day of the week to break it out by the kind of work day:



Now group Saturday (7) and Sunday (1) together, first by moving them next to each other, then by selecting and pressing the Group button on the new toolbar:



Rename the new group, and repeat the process with days 2-6. Then you can get rid of the weekday field. In the end, it will look something like this:

	A	B	C	D	E	F	G	H
1				Who				
2	Data	Weekend	Wk hrs	Jones	Remington	Smith	Wesson	Grand Total
3	Pct	Weekend		21.00%	11.83%	17.12%	10.65%	17.82%
4		Week	No	12.91%	3.23%	15.32%	14.20%	12.47%
5			Yes	66.09%	84.95%	67.57%	75.15%	69.71%
6	Tot mins	Weekend		122	11	19	18	170
7		Week	No	75	3	17	24	119
8			Yes	384	79	75	127	665
9	Total Pct			100.00%	100.00%	100.00%	100.00%	100.00%
10	Total Tot mins			581	93	111	169	954
11								