<u>How to Create A Professional Pivot Table</u>

<u>with i4Query data in 4 Easy Steps</u>

In less than 60 seconds!!

Following is the technique used by Satisfaction Software to create professional looking pivot tables.
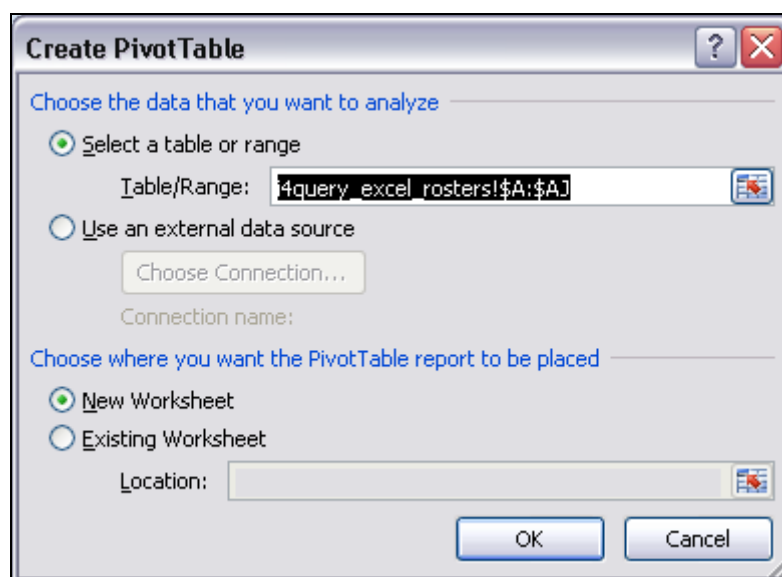
Pre-requisite: Excel version 2007 or later.

1. Create pivot table

For this example we will use the Payroll Transaction (pytran) file.

First you must upload i4 Query data into excel normally by i4 Excel plugin – or upload CSV data that is saved as an excel sheet

- ► Highlight the i4Query data sheet (click on cell A0)
- ► Select
    - → Insert tab
    - → Pivot table

- ► Normally you will accept defaults as follows then click ok

Create PivotTable

Choose the data that you want to analyze
- ● Select a table or range
    - Table/Range: i4query_excel_rosters!$A:$AJ
- ○ Use an external data source
    - Choose Connection...
    - Connection name:

Choose where you want the PivotTable report to be placed
- ● New Worksheet
- ○ Existing Worksheet
    - Location:

OK   Cancel

► Design your pivot table. For this example, sort payroll transaction data by:
  → Branch
  → Employee number & name
  → Allowance code & description (Type)
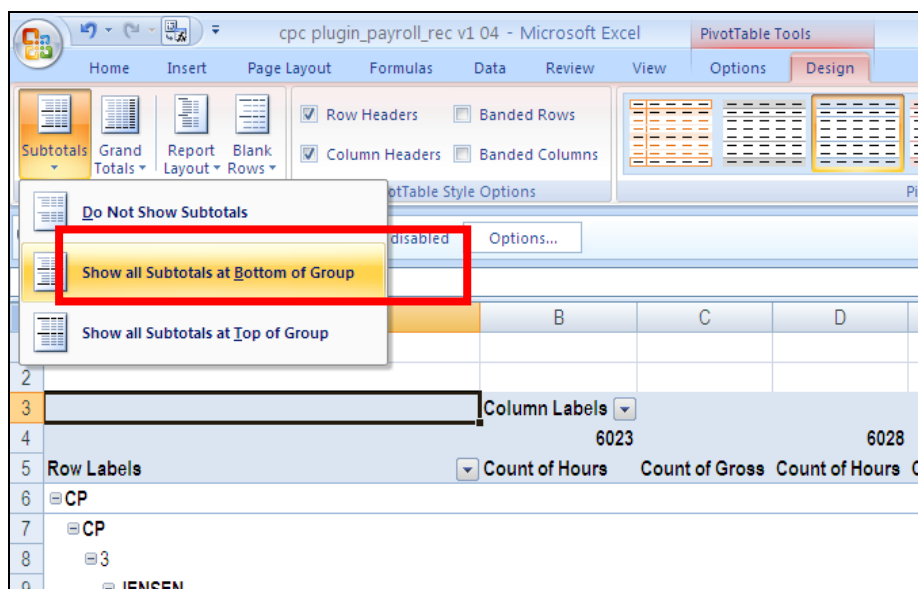 → Columns for each batch
  → Subtotalling hours & Gross
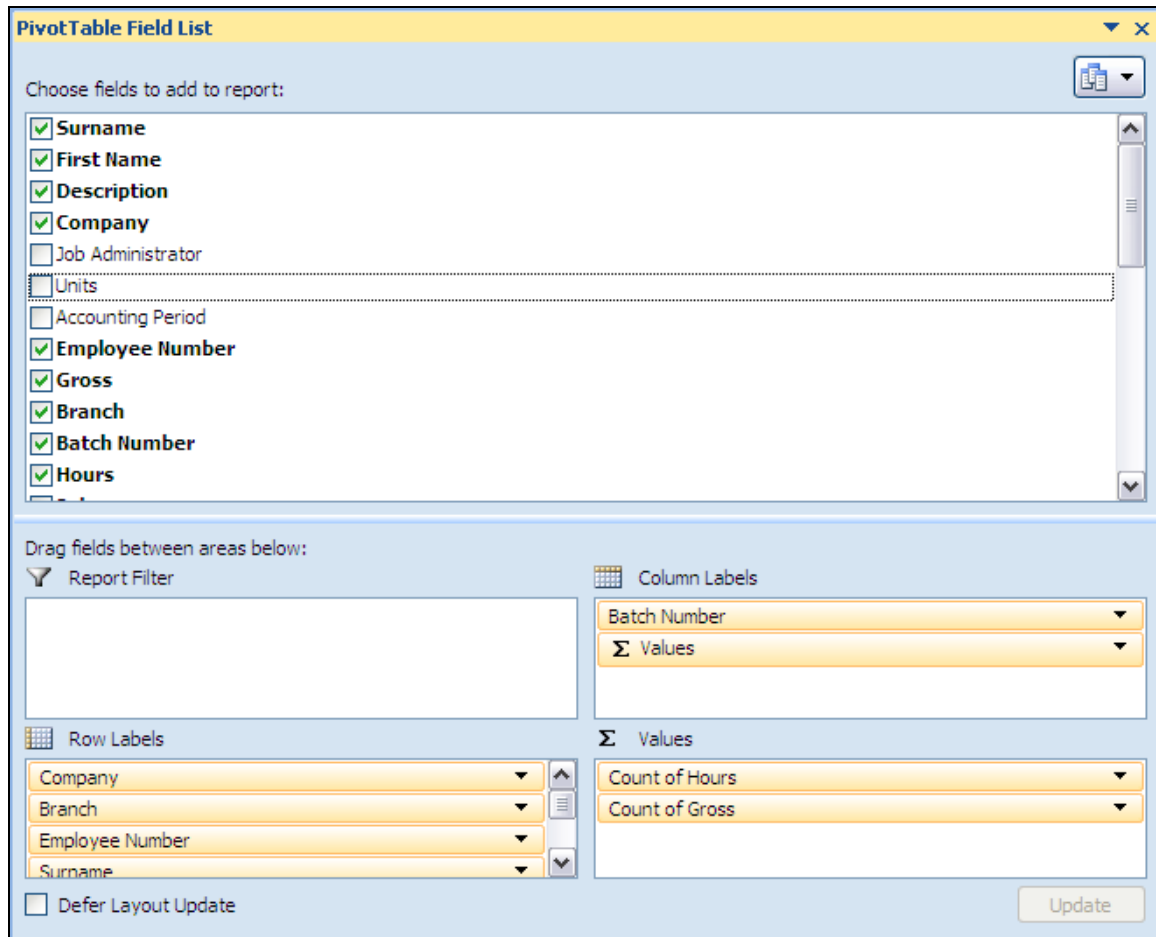
2. Now lets get the Design correct

► Close the above pivot table and select the **Design** tab under Pivot Table Tools

2.1 Subtotals
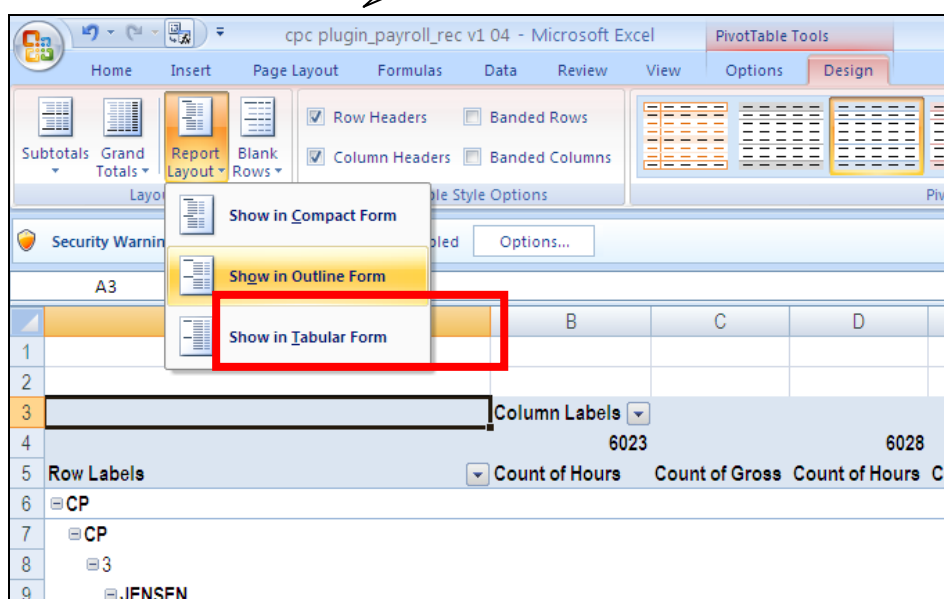
Select "Show All Subtotals at Bottom of Group"

> This is the Aussie/Kiwi way; the default is the American way with subtotals at the top.
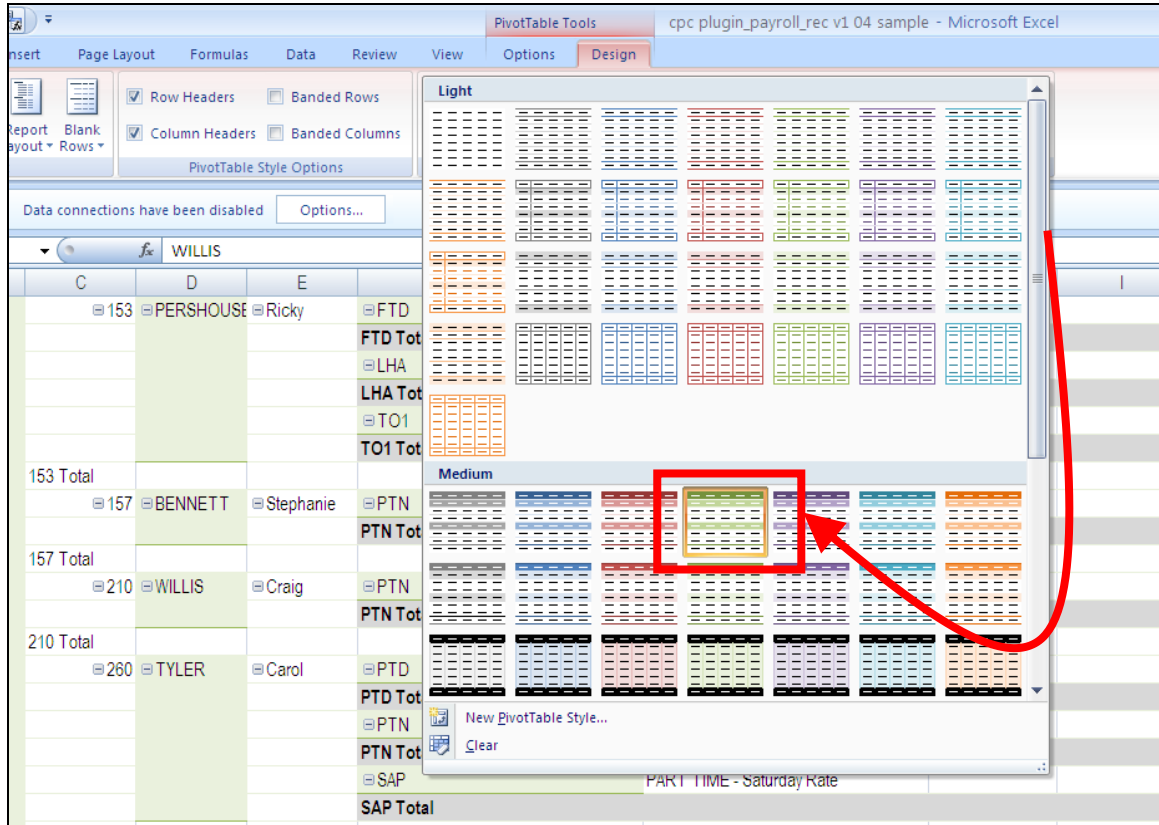

2.2 Report Layout

Select "Show in Tabular Form"

> This is effective visually especially if subtotalling by more than 2 values on rows in Pivot Table (as we are in the example).

Doc: \\ssw\satsof\word\infotips\Infotip_10_Create_pivot_table_in_4_easy_steps.doc

2.3   Select Pivot Style

Green is our scene – but you can be as individual as you like.
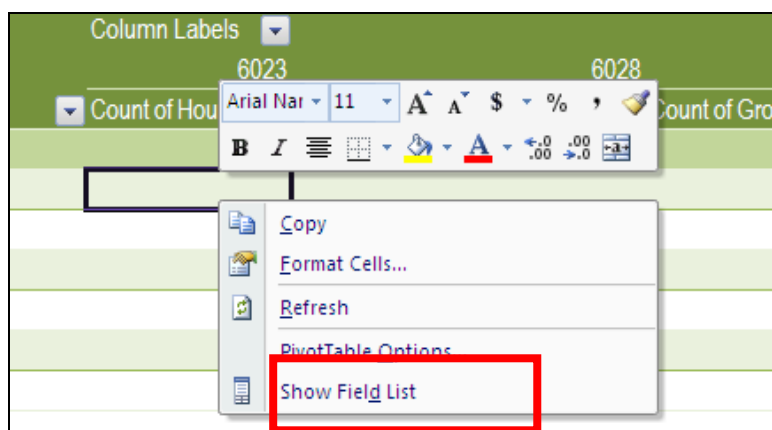Use the drop down arrow to select your colour scheme.

3. Let's get the Subtotalling correct

Now you have a pivot table that is acceptable - except it subtotals too many times, and counts records rather than totals values (of hours and gross).

So let's get this correct!

To reselect Pivot table wizard, **right click** on any cell of the pivot table and select **Show Field List**


3.1   First let's make the subtotalling more sensible

We know that the Employee Number, Surname & First Name is the same thing – Excel does not. So let's tell Excel! You need to click on each field that you wish to turn subtotalling off.

Example:
> ► Select field Surname under the Row Labels section > Field Settings

> ► Change Subtotals from Automatic to None as follows then click ok.

> ► Repeat Process for First Name

> ► Repeat process for Description so only shows subtotal by Allowance code (rather than Allowance code and repeat for Allowance Description).
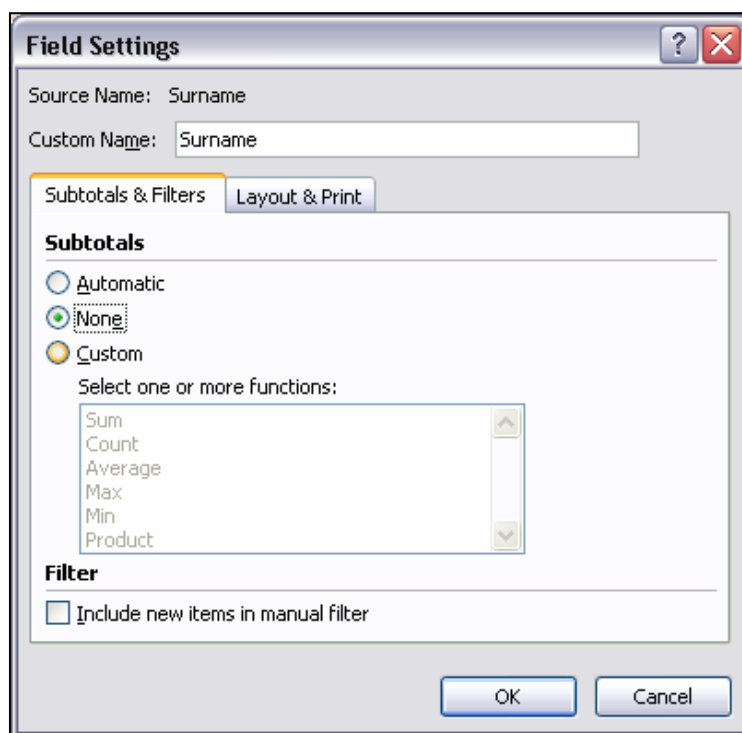
3.2   Now Let's tell Excel to subtotal hours and gross rather than count records

► Right click on any pivot table cell

► Select Show Field List (as before)

► Drag Hours and Gross from the Row Labels field into the bottom right hand box (Values).

► Now select Count of Hours field
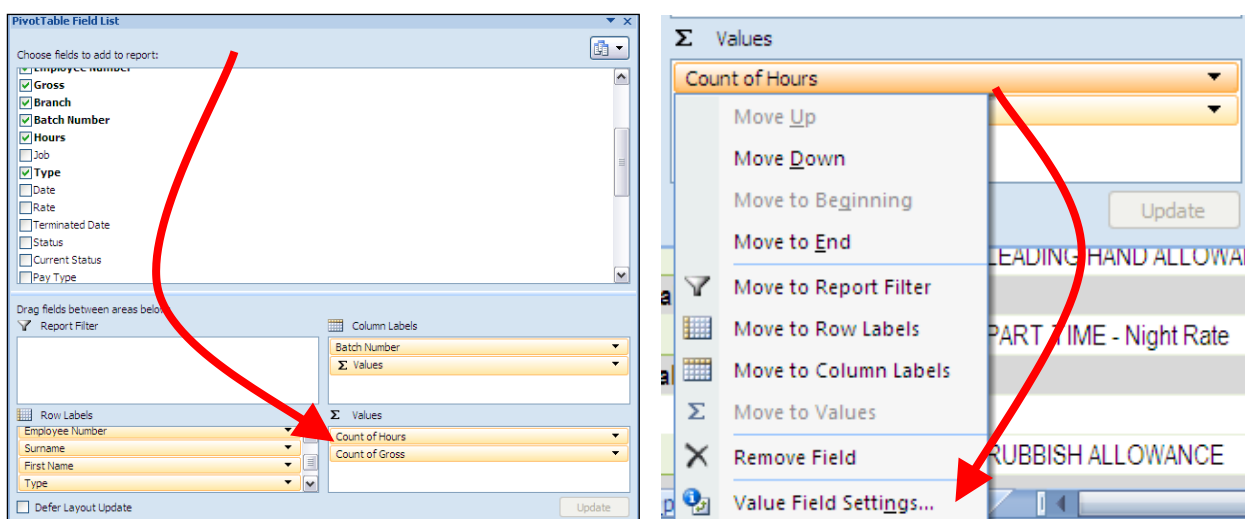
Select **Value Field Settings** and change:
   ► Count to Sum (as wish to total hours)

   ► Custom Name from Sum of Hours to <space> Hours - note the leading space is to avoid the error "Pivot Table Field Name Already Exists" error if you typed Hours without a leading space – as this field already exists!

   ► You could even change the Custom Name (for this pivot table only) to something else such as "Time" if this is more preferable for users of the pivot table.
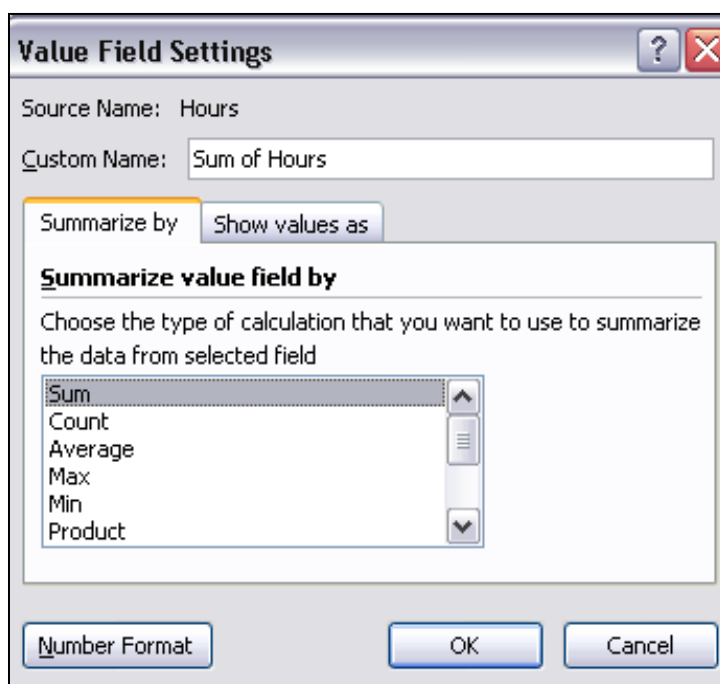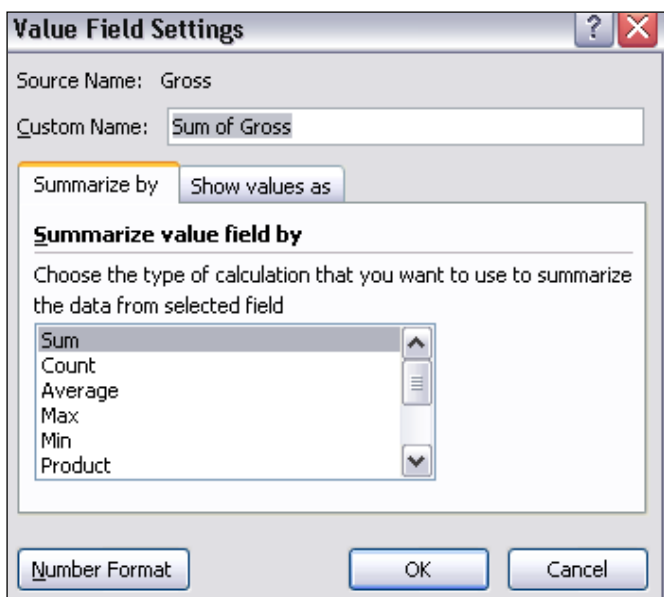
Use a similar approach to change "Count of Gross" to sum and call field "Wages"

► Click on Count of Gross
► Select Value Field Settings
► Change Count to Sum
► Change Custom Name to Wages

As this is an Amount lets show it in a currency amount format.

► Now Select Number Format:
  → Highlight entire pivot table (A, 0) and right click.
  → Select Format Cells and click Currency
  → Our preferred format is Currency (Second image below) as this shows credits in red

► Click ok,

<u>Done.</u>
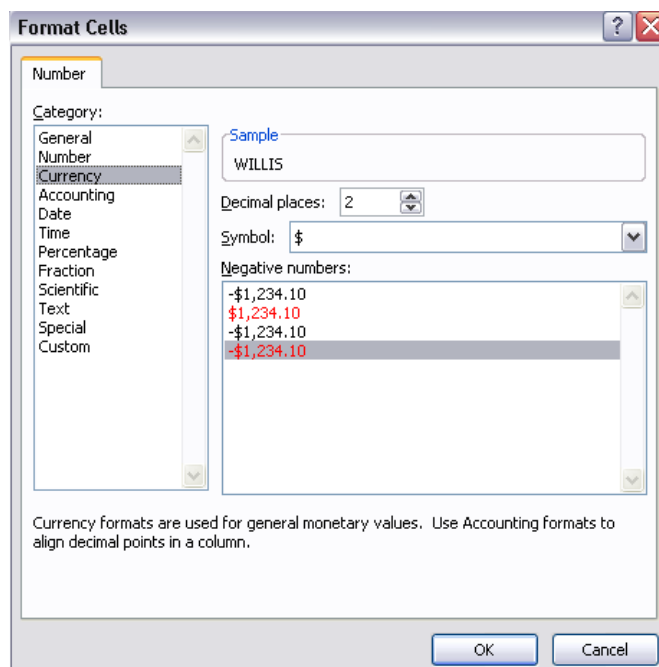
The usual Excel abilities such as highlighting a number of columns and expanding or shrinking at once to suit are available.

So you do not feel cheated, the next page will show you how to add a nice finish!

We made a mistake – there are only 3 steps not 4 – how easy was that!!

4. Nice Touches

Create a pivot table as follows:

The following is a sample result:

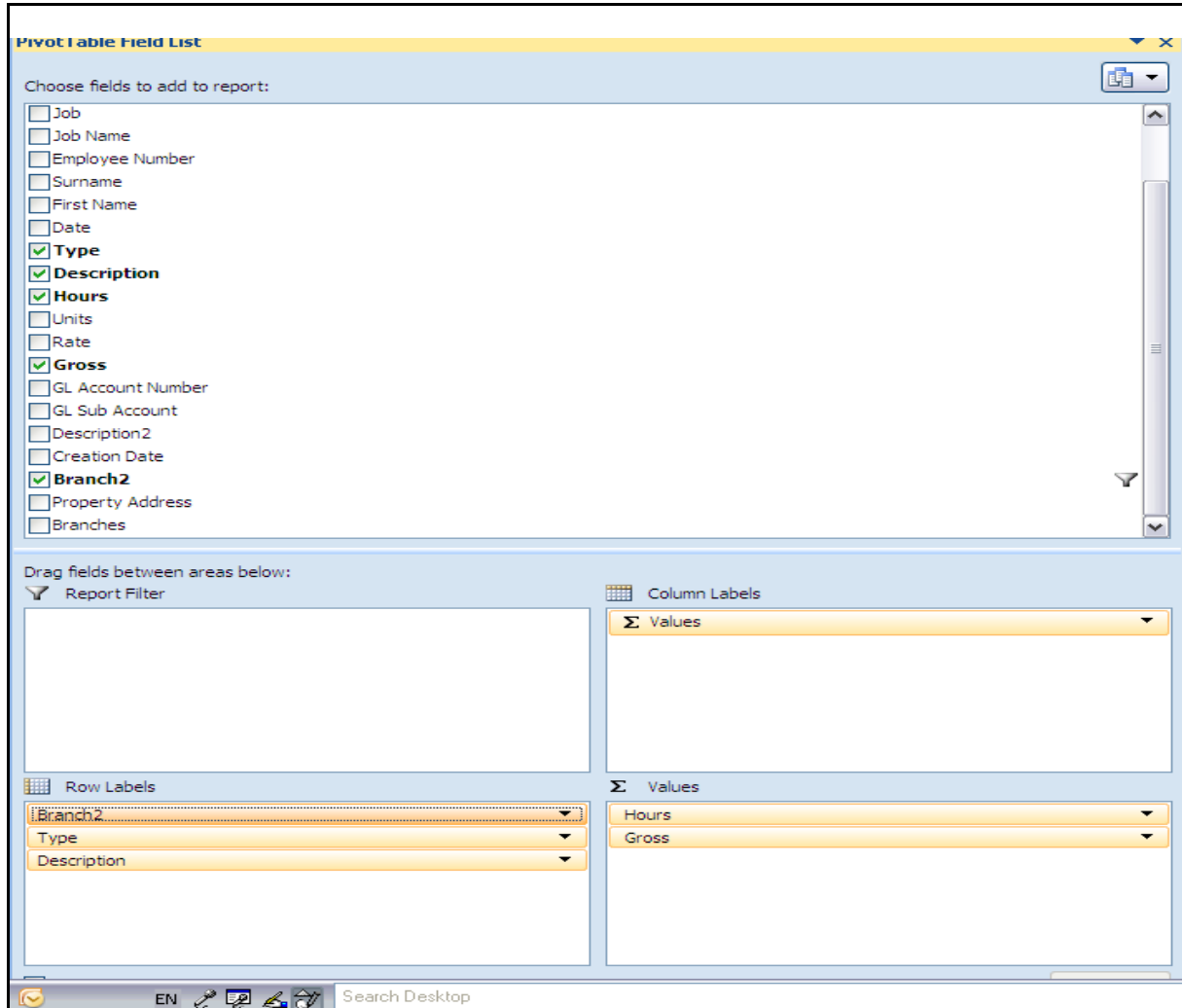| Branch2	Type	Description	Values Hours	Gross
IS	CAN	Casual Night Rate	2	$89.76
	CAR	Car Allowance		$90.00
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15
	GAR	RUBBISH ALLOWANCE		$16.68
	LAU	Laundry Allowance		$110.00
	LHA	LEADING HAND ALLOWANCE		$189.99
	PTD	PART TIME	163	$7,747.71
	PTN	PART TIME - Night Rate	710	$31,207.63
	SAP	PART TIME - Saturday Rate	8	$489.35
	SUP	PART TIME - Sunday Rate	3	$387.68
	TO1	TOILET ALLOWANCE		$142.40
IS Total			**891**	**$41,080.35**
SS	CAN	Casual Night Rate	7	$145.86
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15
	GAR	RUBBISH ALLOWANCE		$55.60
	LAU	Laundry Allowance		$15.00
	LHA	LEADING HAND ALLOWANCE		$75.00
	PTD	PART TIME	67	$3,285.31
	PTN	PART TIME - Night Rate	259	$13,177.16
	SAP	PART TIME - Saturday Rate	8	$707.56
	SUP	PART TIME - Sunday Rate	1	$137.84
	TO1	TOILET ALLOWANCE		$65.70
SS Total			**347**	**$18,274.18**
Grand Total			**1238**	**$59,354.53**

4.1 Formulas

Sometimes you may wish to calculate formulas with the results of pivot tables. In this example we will calculate the average rate per hour (Av Rate per Hour=Gross/Hours).

To do this:

> Click on any cell in the pivot table (so you are in active pivot table area)
> Select Options (from top task bar)
> Select Formulas
> Select Calculated Field (See image below)

➢ Enter the description for the new variable in the **name** field; then in the **formula** box choose the fields from the dictionary by clicking on the "insert field" option if any operations required (in this example: division).
➢ Select OK when finished.
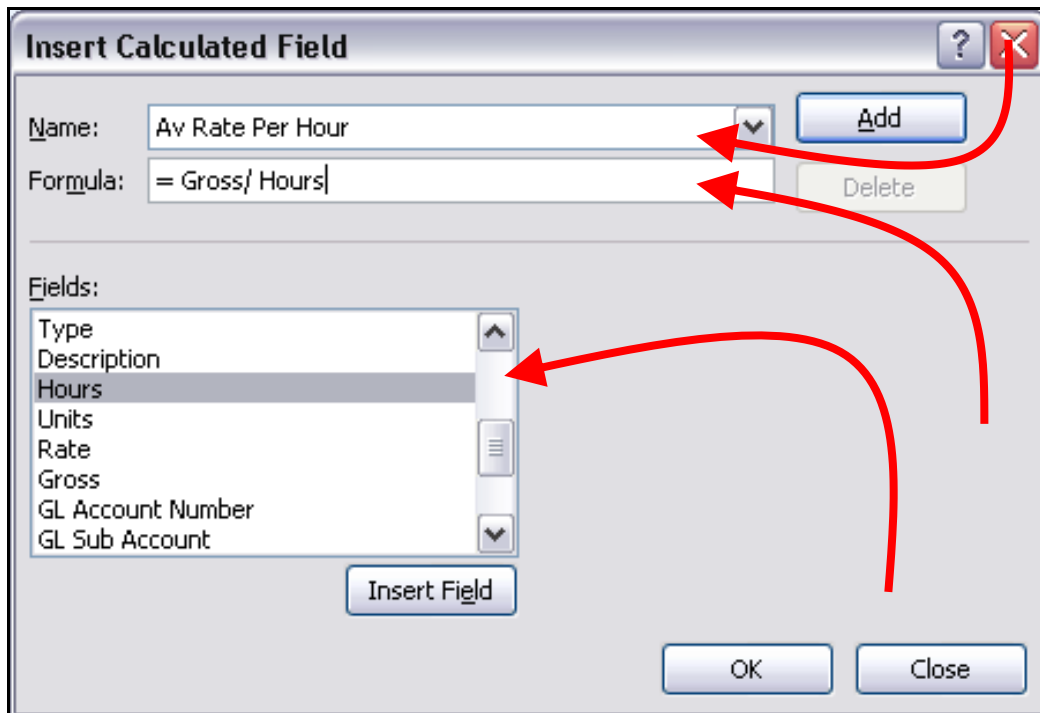
The Pivot Table will be displayed as follows:

			Values		
Branch2	**Type**	**Description**	**Hours**	**Gross**	**Sum of Av Rate Per Hour**
IS	**PTN**	PART TIME - Night Rate	710	$31,207.63	20.81202401
	PTD	PART TIME	163	$7,747.71	18.43056048
	SAP	PART TIME - Saturday Rate	8	$489.35	26.45135135
IS Total			**881**	**$39,444.69**	**20.34938064**
SS	**PTN**	PART TIME - Night Rate	259	$13,177.16	20.84004428
	PTD	PART TIME	67	$3,285.31	18.43091164
	SAP	PART TIME - Saturday Rate	8	$707.56	26.45084112
SS Total			**334**	**$17,170.03**	**20.50642542**
Grand Total			**1215**	**$56,614.72**	**20.39675423**

You can treat calculated fields just like any other field in the data dictionary. If you:
   ➢ Right click on pivot table
   ➢ Select Field List

Then you can rename the 'Sum of Av Rate Per Hour' field result on pivot table to 'Av Rate Per Hour'; select format then select the desired number of decimal places and move its position on the pivot table if desired.

4.2 Errors on Pivot Table

A **#DIV/0!** (Divide by Zero) appears against some codes that do not have any hours – highlighted in yellow in the following. This looks untidy.

			Values		
Branch2	**Type**	**Description**	**Hours**	**Gross**	**Sum of Av Rate Per Hour**
IS	**PTN**	PART TIME - Night Rate	710	$31,207.63	20.81202401
	PTD	PART TIME	163	$7,747.71	18.43056048
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	16.03026316
	SAP	PART TIME - Saturday Rate	8	$489.35	26.45135135
	SUP	PART TIME - Sunday Rate	3	$387.68	34.46044444
	LHA	LEADING HAND ALLOWANCE		$189.99	#DIV/0!
	TO1	TOILET ALLOWANCE		$142.40	#DIV/0!
	LAU	Laundry Allowance		$110.00	#DIV/0!
	CAR	Car Allowance		$90.00	#DIV/0!
	CAN	Casual Night Rate	2	$89.76	22.44
	GAR	RUBBISH ALLOWANCE		$16.68	#DIV/0!

You could go back and change the calculated field definition by using IF formula commands. However the simplest option is to use Excel's error handling option (See image below).

- ➢ Select Options from top task bar
- ➢ Then select Options (again!)
- ➢ Select "For Error Values Show" checkbox and enter the desired value. In this example "Not Appl." has been entered.

This looks better!

			Values		
Branch2	Type	Description	Hours	Gross	Sum of Av Rate Per Hour
IS	PTN	PART TIME - Night Rate	710	$31,207.63	20.81202401
	PTD	PART TIME	163	$7,747.71	18.43056048
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	16.03026316
	SAP	PART TIME - Saturday Rate	8	$489.35	26.45135135
	SUP	PART TIME - Sunday Rate	3	$387.68	34.46044444
	LHA	LEADING HAND ALLOWANCE		$189.99	Not Appl.
	TO1	TOILET ALLOWANCE		$142.40	Not Appl.
	LAU	Laundry Allowance		$110.00	Not Appl.
	CAR	Car Allowance		$90.00	Not Appl.
	CAN	Casual Night Rate	2	$89.76	22.44
	GAR	RUBBISH ALLOWANCE		$16.68	Not Appl.

It will look even better if the rate (number) and text "Not Appl." are aligned.

To do this:
> Highlight the sum of Av Rate per hour column (e.g. click on column F (or as applicable) so whole column is highlighted)
> Select Format Cells
> Select Alignment
> Change Horizontal value to Right (indent) as follows:
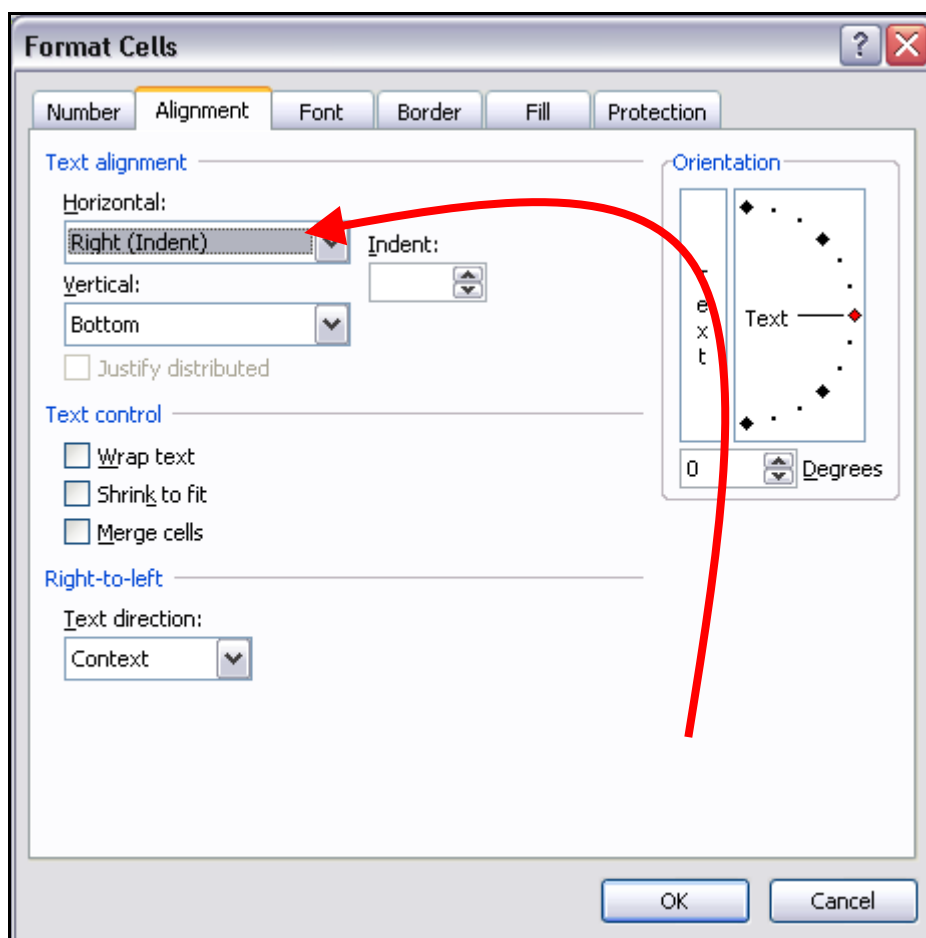
This looks even better!

| Branch2 | Type | Description | Values | | Av Rate Per Hour |
			Hours	Gross	
IS	PTN	PART TIME - Night Rate	710	$31,207.63	$20.812
	PTD	PART TIME	163	$7,747.71	$18.431
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
	SAP	PART TIME - Saturday Rate	8	$489.35	$26.451
	SUP	PART TIME - Sunday Rate	3	$387.68	$34.460
	LHA	LEADING HAND ALLOWANCE		$189.99	Not Appl.
	TO1	TOILET ALLOWANCE		$142.40	Not Appl.
	LAU	Laundry Allowance		$110.00	Not Appl.
	CAR	Car Allowance		$90.00	Not Appl.
	CAN	Casual Night Rate	2	$89.76	$22.440
	GAR	RUBBISH ALLOWANCE		$16.68	Not Appl.
IS Total			**891**	**$41,080.35**	**$20.627**
SS	PTN	PART TIME - Night Rate	259	$13,177.16	$20.840
	PTD	PART TIME	67	$3,285.31	$18.431
	SAP	PART TIME - Saturday Rate	8	$707.56	$26.451
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
	CAN	Casual Night Rate	7	$145.86	$22.440
	SUP	PART TIME - Sunday Rate	1	$137.84	$34.460
	LHA	LEADING HAND ALLOWANCE		$75.00	Not Appl.
	TO1	TOILET ALLOWANCE		$65.70	Not Appl.
	GAR	RUBBISH ALLOWANCE		$55.60	Not Appl.
	LAU	Laundry Allowance		$15.00	Not Appl.
SS Total			**347**	**$18,274.18**	**$20.630**
Grand Total			**1238**	**$59,354.53**	**$20.628**

4.4 Sorting

Rather than having rows sorted alphanumerically you may wish to sort in a more helpful order. In this example we may wish to sort within Branch then by the Average Hourly Rate field that we just calculated!

To do this, go to the **Pivot Table**.

It is critical to right click on the column header that you wish to sort by. In following example it is desired to change the sort of the Type column, so **right click** on the Type column heading:

Branch2	Type	Description	Hours	Gross	Av Rate Per Hour
IS	PTN	PART TIME - Night Rate	710	$31,207.63	$20.812
	PTD	PART TIME	163	$7,747.71	$18.431
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
	SAP	PART TIME - Saturday Rate	8	$489.35	$26.451
	SUP	PART TIME - Sunday Rate	3	$387.68	$34.460
	LHA	LEADING HAND ALLOWANCE		$189.99	Not Appl.
	TO1	TOILET ALLOWANCE		$142.40	Not Appl.

Select Sort
► More Sort Options
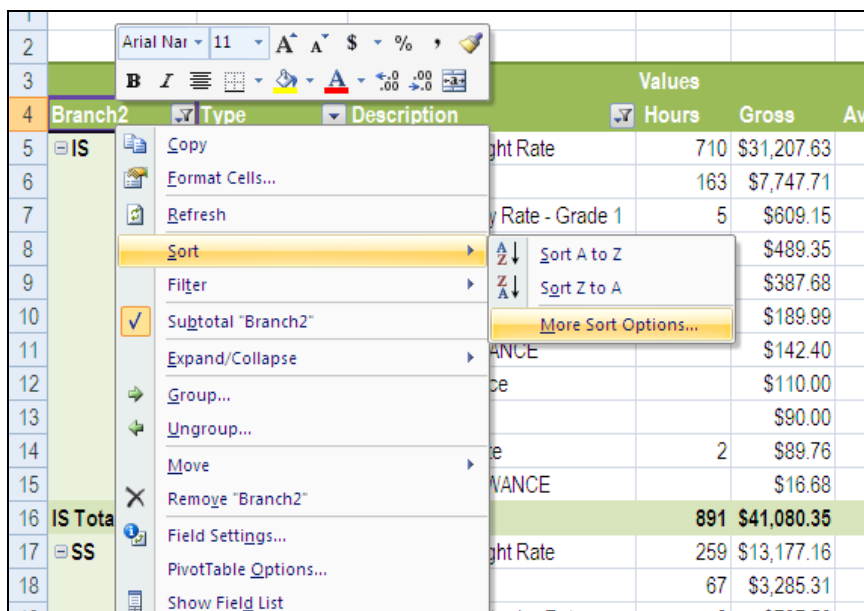
Select **Descending (Z to A) by:** (which means highest rate will come first)
► And in this example select **Av Rate Per Hour** in the drop down box.
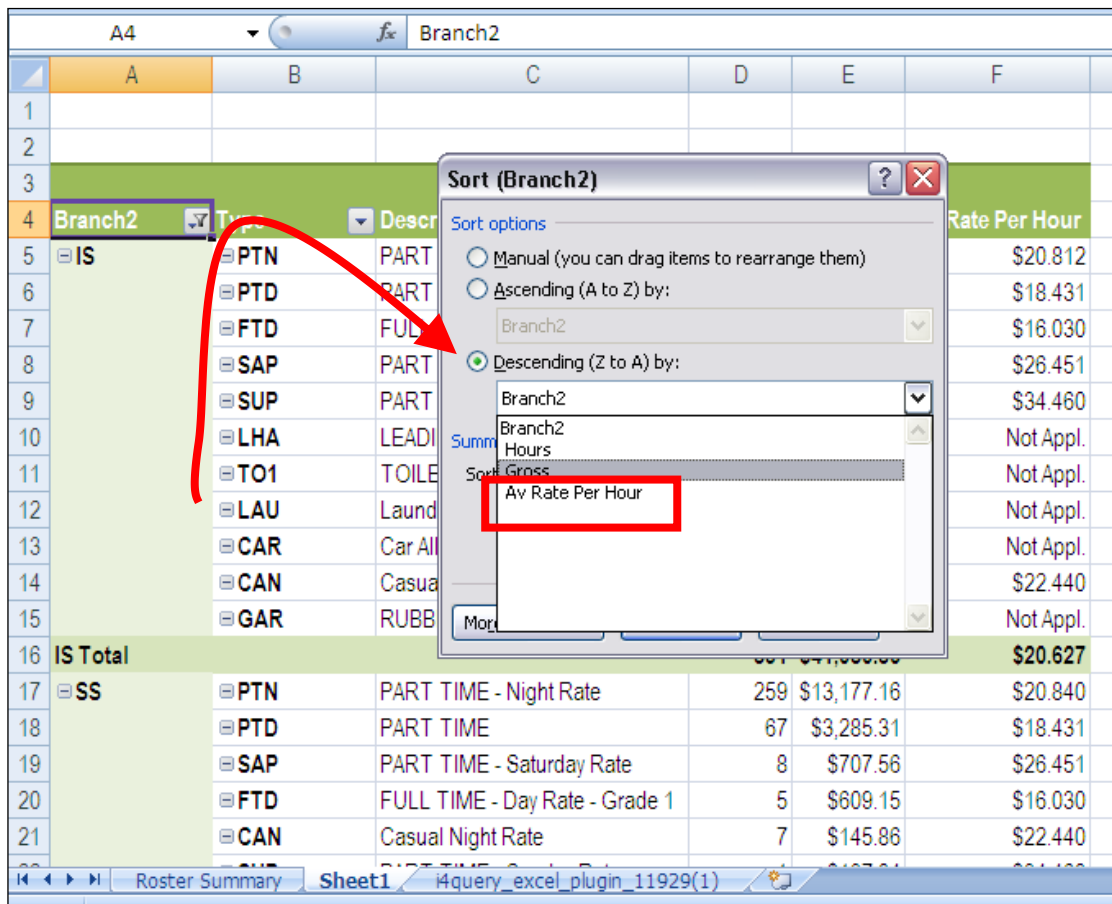
Following is the result:

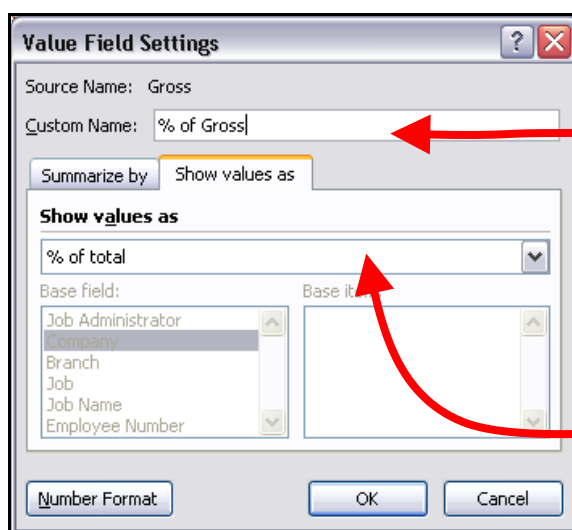| Branch2	Type	Description	Values		Av Rate Per Hour
			Hours	Gross	
IS	**SUP**	PART TIME - Sunday Rate	3	$387.68	$34.460
	SAP	PART TIME - Saturday Rate	8	$489.35	$26.451
	CAN	Casual Night Rate	2	$89.76	$22.440
	PTN	PART TIME - Night Rate	710	$31,207.63	$20.812
	PTD	PART TIME	163	$7,747.71	$18.431
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
	CAR	Car Allowance		$90.00	Not Appl.
	GAR	RUBBISH ALLOWANCE		$16.68	Not Appl.
	TO1	TOILET ALLOWANCE		$142.40	Not Appl.
	LAU	Laundry Allowance		$110.00	Not Appl.
	LHA	LEADING HAND ALLOWANCE		$189.99	Not Appl.
IS Total			**891**	**$41,080.35**	**$20.627**
SS	**SUP**	PART TIME - Sunday Rate	1	$137.84	$34.460
	SAP	PART TIME - Saturday Rate	8	$707.56	$26.451
	CAN	Casual Night Rate	7	$145.86	$22.440
	PTN	PART TIME - Night Rate	259	$13,177.16	$20.840
	PTD	PART TIME	67	$3,285.31	$18.431
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
	GAR	RUBBISH ALLOWANCE		$55.60	Not Appl.
	LAU	Laundry Allowance		$15.00	Not Appl.
	TO1	TOILET ALLOWANCE		$65.70	Not Appl.
	LHA	LEADING HAND ALLOWANCE		$75.00	Not Appl.
SS Total			**347**	**$18,274.18**	**$20.630**
Grand Total			**1238**	**$59,354.53**	**$20.628**

4.5 Percentages on a Pivot Table

Lets add a **%** of the grand total for each allowance. To do this:

➢ Right click and select Field List
➢ Drag the Gross field to the Total Values Section
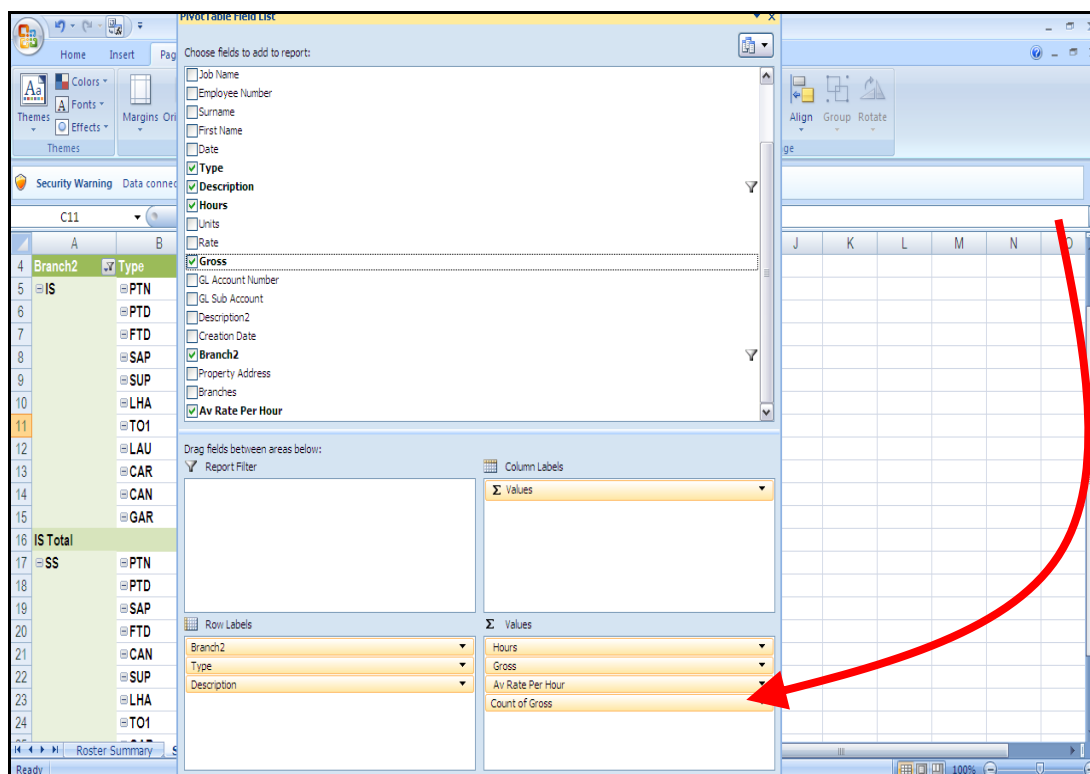
➢ Click on "Count of Gross" field
➢ Change "Summarize value field by" from Count to Sum
➢ Click "Value Field Settings"
➢ Select "Show Values As" tab
➢ Select "% of Total" from the drop down list
➢ Rename "Custom Name" field to "% of Gross" so more meaningful
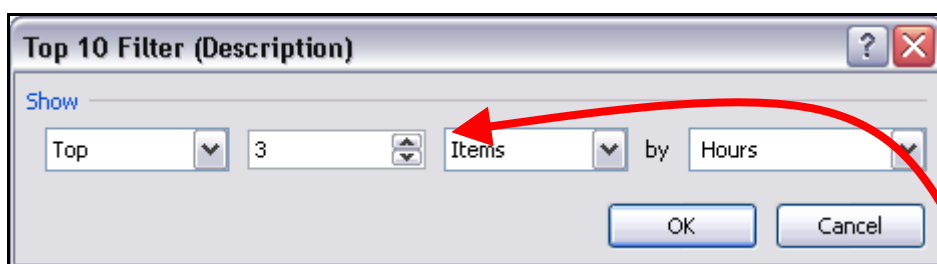
Then an even better result!

Branch2	Type	Description	Values		Av Rate Per Hour	% of Gross
			Hours	Gross		
IS	PTN	PART TIME - Night Rate	710	$31,207.63	$20.812	51.60%
	PTD	PART TIME	163	$7,747.71	$18.431	11.85%
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030	0.36%
	SAP	PART TIME - Saturday Rate	8	$489.35	$26.451	0.58%
	SUP	PART TIME - Sunday Rate	3	$387.68	$34.460	0.22%
	LHA	LEADING HAND ALLOWANCE		$189.99	Not Appl.	0.51%
	TO1	TOILET ALLOWANCE		$142.40	Not Appl.	4.72%
	LAU	Laundry Allowance		$110.00	Not Appl.	0.80%
	CAR	Car Allowance		$90.00	Not Appl.	0.22%
	CAN	Casual Night Rate	2	$89.76	$22.440	0.15%
	GAR	RUBBISH ALLOWANCE		$16.68	Not Appl.	0.44%
IS Total			**891**	**$41,080.35**	**$20.627**	**71.44%**
SS	PTN	PART TIME - Night Rate	259	$13,177.16	$20.840	18.82%
	PTD	PART TIME	67	$3,285.31	$18.431	4.87%
	SAP	PART TIME - Saturday Rate	8	$707.56	$26.451	0.58%
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030	0.36%
	CAN	Casual Night Rate	7	$145.86	$22.440	0.51%
	SUP	PART TIME - Sunday Rate	1	$137.84	$34.460	0.07%
	LHA	LEADING HAND ALLOWANCE		$75.00	Not Appl.	0.22%
	TO1	TOILET ALLOWANCE		$65.70	Not Appl.	1.82%
	GAR	RUBBISH ALLOWANCE		$55.60	Not Appl.	1.09%
	LAU	Laundry Allowance		$15.00	Not Appl.	0.22%
SS Total			**347**	**$18,274.18**	**$20.630**	**28.56%**
Grand Total			**1238**	**$59,354.53**	**$20.628**	**100.00%**

4.6 Filters – Pivot Tables

Next you may decide you only wish to see the 3 largest allowances, this time based on hours not gross.

> ➢ Right click on the column label that you wish to filter (on Type column heading in this example)
> ➢ Select Filter
> ➢ Top 10

Change the specifications as required from the drop down menus (see below image), then select ok.

The result will be as follows:

Branch2	Type	Description	Values		Av Rate Per Hour
			Hours	**Gross**	
IS	**PTN**	PART TIME - Night Rate	710	$31,207.63	$20.812
	PTD	PART TIME	163	$7,747.71	$18.431
	FTD	FULL TIME - Day Rate - Grade 1	5	$609.15	$16.030
IS Total			**878**	**$39,564.49**	**$20.208**
SS	**SAP**	PART TIME - Saturday Rate	8	$707.56	$26.451
	PTN	PART TIME - Night Rate	259	$13,177.16	$20.840
	PTD	PART TIME	67	$3,285.31	$18.431
SS Total			**334**	**$17,170.03**	**$20.506**
Grand Total			**1212**	**$56,734.52**	**$20.297**

Pretty and Impressive!

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