

Excel's Subtotals

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What are Subtotals? Excel Subtotals will *automatically* generate subtotal values with a Function (such as Sum, Average, Max, Min) within a list. A grand total is also generated.

Companies have lists of data that need to be analyzed and certain calculations performed by group. *Two examples of lists of data:*

1. Customer names, cities, states, and invoice totals.
2. Another example could be employees' names, departments, location where the employee works and salaries.


A **list** is a series of rows that contains related data. The list rows should be adjacent – no blank rows and the top row in the list is known as the **Header Row** and contains labels.

Steps to create Subtotals

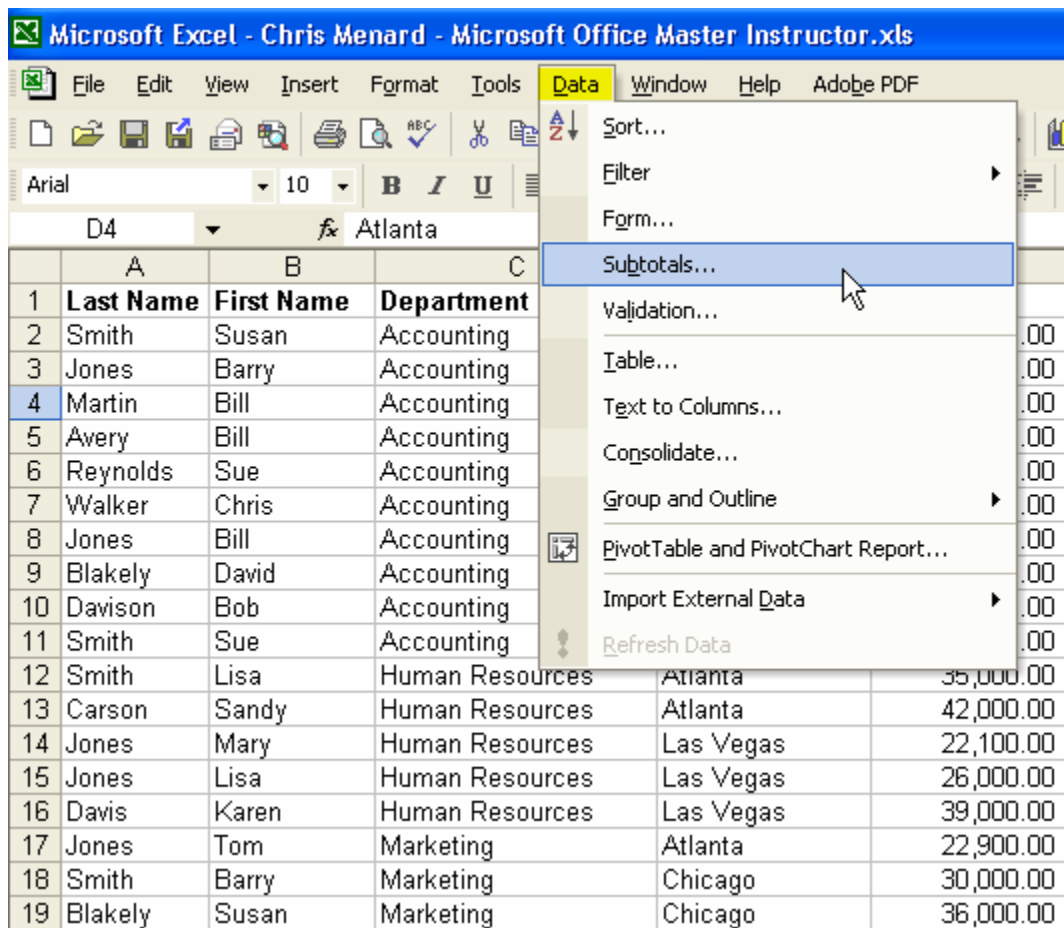
In the list data below, which is cells A1 to E19, you've been asked to calculate the total salary for each department. You will sort the data first, and then use subtotals from the Data menu.

The screenshot shows the Microsoft Excel interface with the 'Data' menu open. The 'Sort Ascending' and 'Sort Descending' options are highlighted. Red arrows point to these options with labels 'Sort Ascending and Descending' and 'Header Row'. The data table below is as follows:

	A	B	C	D	E	F
1	Last Name	First Name	Department	Location	Salary	
2	Jones	Barry	Accounting	Atlanta	39,000.00	
3	Smith	Barry	Marketing	Chicago	30,000.00	
4	Martin	Bill	Accounting	Atlanta	39,000.00	
5	Avery	Bill	Accounting	Atlanta	39,001.00	
6	Jones	Bill	Accounting	Chicago	45,000.00	
7	Davison	Bob	Accounting	Las Vegas	37,000.00	
8	Walker	Chris	Accounting	Chicago	39,000.00	
9	Blakely	David	Accounting	Las Vegas	40,000.00	
10	Davis	Karen	Human Resources	Las Vegas	39,000.00	
11	Smith	Lisa	Human Resources	Atlanta	35,000.00	
12	Jones	Lisa	Human Resources	Las Vegas	26,000.00	
13	Jones	Mary	Human Resources	Las Vegas	22,100.00	
14	Carson	Sandy	Human Resources	Atlanta	42,000.00	
15	Reynolds	Sue	Accounting	Atlanta	20,000.00	
16	Smith	Sue	Accounting	Stockbridge	65,000.00	
17	Smith	Susan	Accounting	Atlanta	48,000.00	
18	Blakely	Susan	Marketing	Chicago	36,000.00	
19	Jones	Tom	Marketing	Atlanta	22,900.00	
20						

1. Select cell **C2** then click  **Sort Ascending**.
Technically, it does not matter whether you sort in Ascending or Descending order, but in this exercise we chose Ascending.

2. Next click on **Data | Subtotals** from the Menu Bar.



3. Your list (cells A1 to E19) should get automatically selected. **Change the Subtotal box to what you see below.** Remember, whatever you Sort by in Step 1, will be what "At each change in:" should be.

	A	B	C	D	E
1	Last Name	First Name	Department	Location	Salary
2	Smith	Susan	Accounting	Atlanta	48,000.00
3	Jones	Barry	Accounting	Atlanta	39,000.00
4	Martin	Bill	Accounting	Atlanta	39,000.00
5	Avery	Bill			39,001.00
6	Reynolds	Sue			20,000.00
7	Walker	Chris			39,000.00
8	Jones	Bill			45,000.00
9	Blakely	David			40,000.00
10	Davison	Bob			37,000.00
11	Smith	Sue			65,000.00
12	Smith	Lisa			35,000.00
13	Carson	Sandy			42,000.00
14	Jones	Mary			22,100.00
15	Jones	Lisa			26,000.00
16	Davis	Karen			39,000.00
17	Jones	Tom			22,900.00
18	Smith	Barry			30,000.00
19	Blakely	Susan			36,000.00
20					
21					
22					

Subtotal [?] [X]

At each change in:

Use function:

Add subtotal to:
 Department
 Location
 Salary

Replace current subtotals
 Page break between groups
 Summary below data

Remove All OK Cancel

4. Click **OK** and you will get these results.

	A	B	C	D	E	F	G
1	Last Name	First Name	Department	Location	Salary		
2	Smith	Susan	Accounting	Atlanta	48,000.00		
3	Jones	Barry	Accounting	Atlanta	39,000.00		
4	Martin	Bill	Accounting	Atlanta	39,000.00		
5	Avery	Bill	Accounting	Atlanta	39,001.00		
6	Reynolds	Sue	Accounting	Atlanta	20,000.00		
7	Walker	Chris	Accounting	Chicago	39,000.00		
8	Jones	Bill	Accounting	Chicago	45,000.00		
9	Blakely	David	Accounting	Las Vegas	40,000.00		
10	Davison	Bob	Accounting	Las Vegas	37,000.00		
11	Smith	Sue	Accounting	Stockbridge	65,000.00		
12			Accounting Total		411,001.00		
13	Smith	Lisa	Human Resources	Atlanta	35,000.00		
14	Carson	Sandy	Human Resources	Atlanta	42,000.00		
15	Jones	Mary	Human Resources	Las Vegas	22,100.00		
16	Jones	Lisa	Human Resources	Las Vegas	26,000.00		
17	Davis	Karen	Human Resources	Las Vegas	39,000.00		
18			Human Resources Total		164,100.00		
19	Jones	Tom	Marketing	Atlanta	22,900.00		
20	Smith	Barry	Marketing	Chicago	30,000.00		
21	Blakely	Susan	Marketing	Chicago	36,000.00		
22			Marketing Total		88,900.00		
23			Grand Total		664,001.00		
24							
25							
26							

Notice the subtotals that Excel automatically generated

When subtotals are added to a list, the list is outlined.

1	2	3	A	B	C
	1		Last Name	First Name	Department
	2		Smith	Susan	Accounting
	3		Jones	Barry	Accounting

Outline created by Subtotals

5. Clicking on the outline symbols will show or hide the detail. Click on the **1** to display only the Grand Total.

1	2	3	A	B	C	D	E
	1		Last Name	First Name	Department	Location	Salary
	23		Grand Total				664,001.00
	24						
	25						
	26						
	27						

NOTE: The Grand Total is the total of the list data not the subtotal results. If Average were used instead of Sum, the Average would display the average for the detail rows, not the subtotal rows.

6. Click on **2** to display the Subtotals and the Grant Total.
You can manually expand or collapse subtotals by clicking on the plus sign next to the respective row.

1	2	3	A	B	C	D	E
	1		Last Name	First Name	Department	Location	Salary
	12				Accounting Total		411,001.00
	18		Subtotals →		Human Resources Total		164,100.00
	22				Marketing Total		88,900.00
	23		Grand total →		Grand Total		664,001.00
	24						

7. Clicking on **3** will display the list, Subtotals, and Grand total.

1	2	3	A	B	C	D	E
1			Last Name	First Name	Department	Location	Salary
2	Smith	Susan	Accounting	Atlanta	48,000.00		
3	Jones	Barry	Accounting	Atlanta	39,000.00		
4	Martin	Bill	Accounting	Atlanta	39,000.00		
5	Avery	Bill	Accounting	Atlanta	39,001.00		
6	Reynolds	Sue	Accounting	Atlanta	20,000.00		
7	Walker	Chris	Accounting	Chicago	39,000.00		
8	Jones	Bill	Accounting	Chicago	45,000.00		
9	Blakely	David	Accounting	Las Vegas	40,000.00		
10	Davison	Bob	Accounting	Las Vegas	37,000.00		
11	Smith	Sue	Accounting	Stockbridge	65,000.00		
12			Accounting Total			411,001.00	
13	Smith	Lisa	Human Resources	Atlanta	35,000.00		
14	Carson	Sandy	Human Resources	Atlanta	42,000.00		
15	Jones	Mary	Human Resources	Las Vegas	22,100.00		
16	Jones	Lisa	Human Resources	Las Vegas	26,000.00		
17	Davis	Karen	Human Resources	Las Vegas	39,000.00		
18			Human Resources Total			164,100.00	
19	Jones	Tom	Marketing	Atlanta	22,900.00		
20	Smith	Barry	Marketing	Chicago	30,000.00		
21	Blakely	Susan	Marketing	Chicago	36,000.00		
22			Marketing Total			88,900.00	
23			Grand Total			664,001.00	

8. To remove Subtotals, click on **Data | Subtotals | Remove All**.

The screenshot shows an Excel spreadsheet with a 'Subtotal' dialog box open. The spreadsheet has columns for 'Last Name', 'First Name', 'Department', 'Location', and 'Salary'. The dialog box is titled 'Subtotal' and contains the following options:

- At each change in: Department
- Use function: Sum
- Add subtotal to: Department, Location, Salary (checked)
- Replace current subtotals
- Page break between groups
- Summary below data
- Buttons: Remove All (highlighted with a red rectangle), OK, Cancel

	A	B	C	D	E
1	Last Name	First Name			Salary
2	Smith	Susan			48,000.00
3	Jones	Barry			39,000.00
4	Martin	Bill			39,000.00
5	Avery	Bill			39,001.00
6	Reynolds	Sue			20,000.00
7	Walker	Chris			39,000.00
8	Jones	Bill			45,000.00
9	Blakely	David			40,000.00
10	Davison	Bob			37,000.00
11	Smith	Sue			65,000.00
12					411,001.00
13	Smith	Lisa			35,000.00
14	Carson	Sandy			42,000.00
15	Jones	Mary			22,100.00
16	Jones	Lisa			26,000.00
17	Davis	Karen			39,000.00
18					164,100.00
19	Jones	Tom	Marketing	Atlanta	22,900.00
20	Smith	Barry	Marketing	Chicago	30,000.00
21	Blakely	Susan	Marketing	Chicago	36,000.00
22			Marketing Total		88,900.00
23			Grand Total		664,001.00

Chris Menard:

- Chris Menard is the [first](#) Microsoft Office Master Instructor in the world for Office XP, Office 2000, and Office 97.
- BBA in Accounting and nine years of accounting experience.
- Featured speaker for the Georgia Society of CPAs.
- Featured on [Microsoft's](#) web site in March 2002
- Featured on Certiport's web site in May 2002
- Featured in the Atlanta Journal in 2002 and July 2004.
- Previously worked for Georgia-Pacific Corp and IBM Corp.
- Teaches classes he developed for the University of Georgia and Clayton College & State University
- Trains corporate clients in Microsoft Office Suite such as Delta Air Lines, Georgia-Pacific, UCB Pharma, Coca-Cola Bottling Company, and many others.
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