

## Pivot Tables:

Pivot tables are used to create frequency tables for one or more categorical variables. Once we have created a pivot table, we can use this to create other tables, such as contingency tables and conditional proportion tables. We also must have a pivot table before we can produce plots such as bar charts and pie charts.

In the example used to explain the procedure, I have 2 categorical variables, Gender and Diabetes. First I will create a pivot table when only one variable, Diabetes, is the variable of interest. Then I'll create a pivot table when both variables are of interest. Note that the term *pivot table* is just another way of saying *frequency table* or, in the case of 2 variables, a *2-way* or *contingency table*.

For our first example, I'll concentrate on just the variable *Diabetes*. To create a pivot table, the first thing I must do is highlight the *Diabetes* data column. See below left. Next click **Data** → **Pivot Table and PivotChart Report** to the window below. Continue clicking **Next** or **Finish** until you've gone through all the tables below.

	A	B	C
1	Gender	Diabetes	
2	male	diabetes	
3	male	diabetes	
4	male	diabetes	
5	male	diabetes	
6	male	diabetes	
7	male	diabetes	
8	male	diabetes	
9	male	diabetes	
10	male	diabetes	
11	male	diabetes	
12	male	diabetes	
13	male	diabetes	

PivotTable and PivotChart Wizard - Step 1 of 3

Where is the data that you want to analyze?

- Microsoft Excel list or database
- External data source
- Multiple consolidation ranges
- Another PivotTable report or PivotChart report

What kind of report do you want to create?

- PivotTable
- PivotChart report (with PivotTable report)

Buttons: Cancel, < Back, Next >, Finish

PivotTable and PivotChart Wizard - Step 2 of 3

Where is the data that you want to use?

Range: \$B:\$B

Buttons: Cancel, < Back, Next >, Finish

PivotTable and PivotChart Wizard - Step 3 of 3

Where do you want to put the PivotTable report?

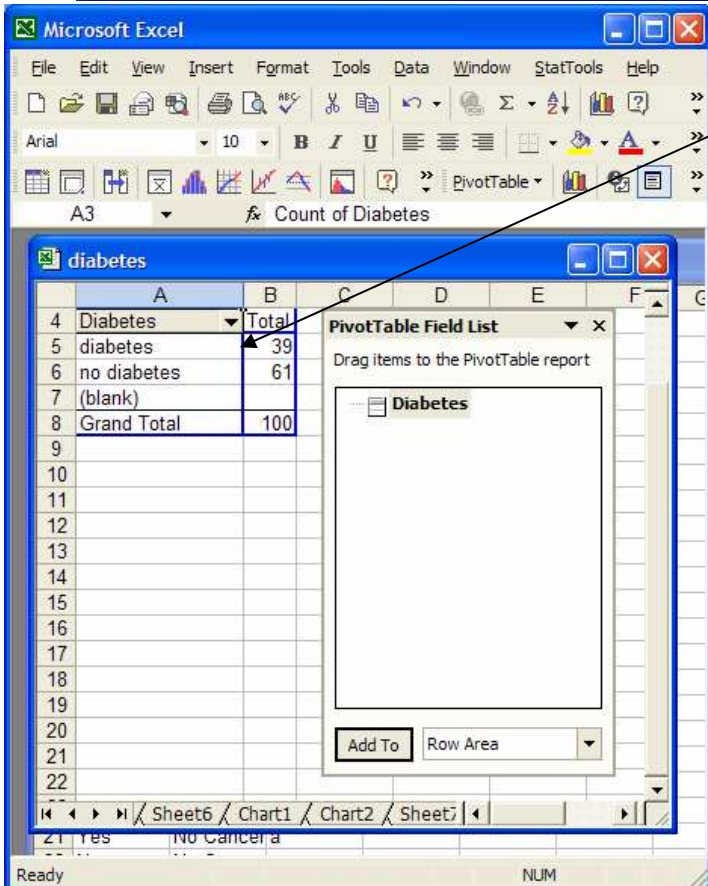
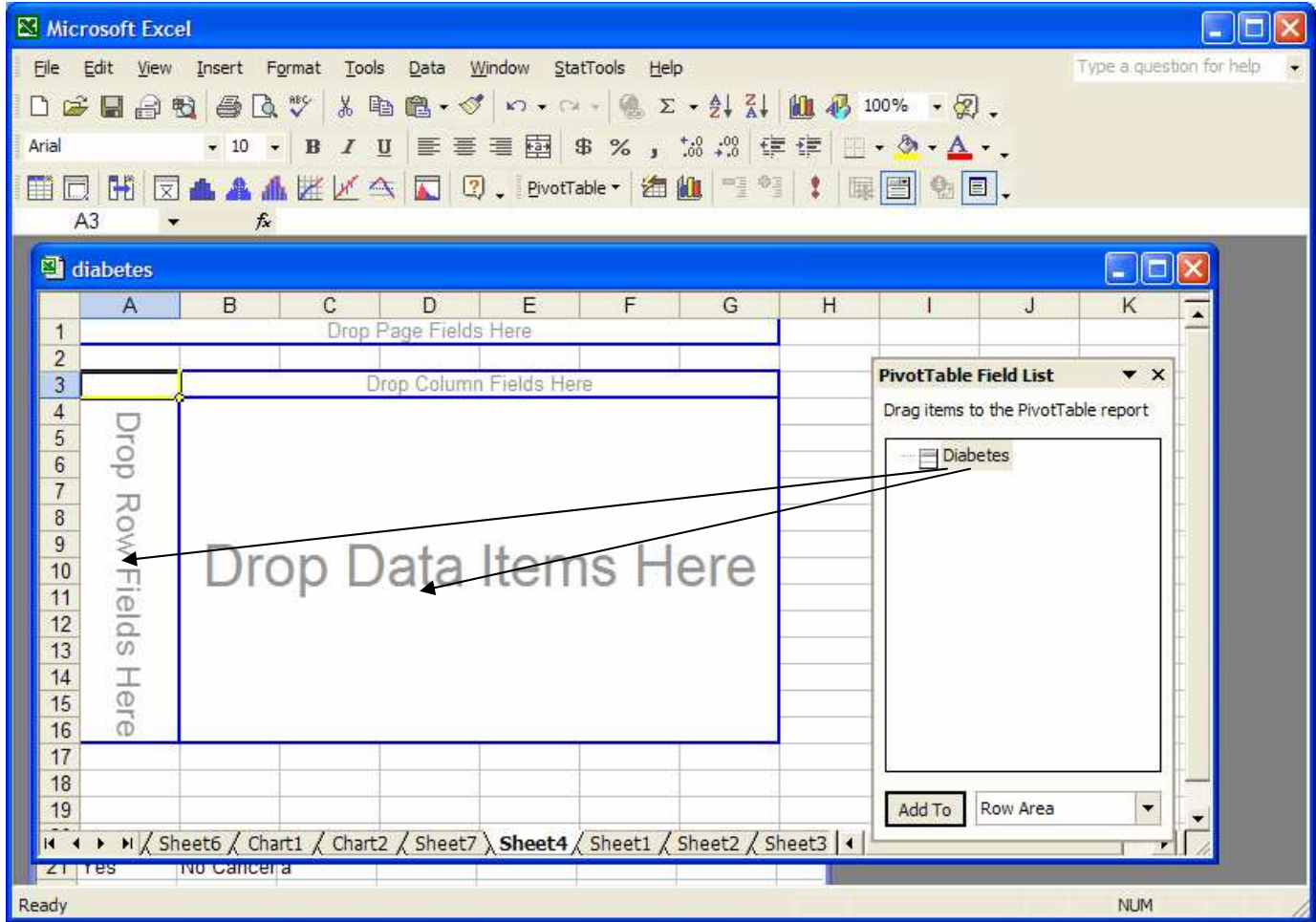
- New worksheet
- Existing worksheet

Range: \$F\$41

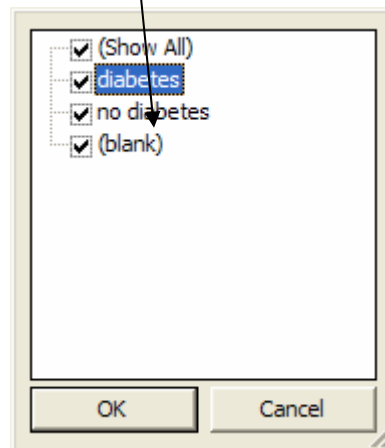
Click Finish to create your PivotTable report.

Buttons: Layout..., Options..., Cancel, < Back, Next >, Finish

When you've done the above, what you should get is shown below. Using your left mouse button, drag the variable of interest in the **PivotTable Field List** box and drop it into the **Drop Row Fields Here** box. Repeat but now drag the variable into the **Drop Data Items Here** box.

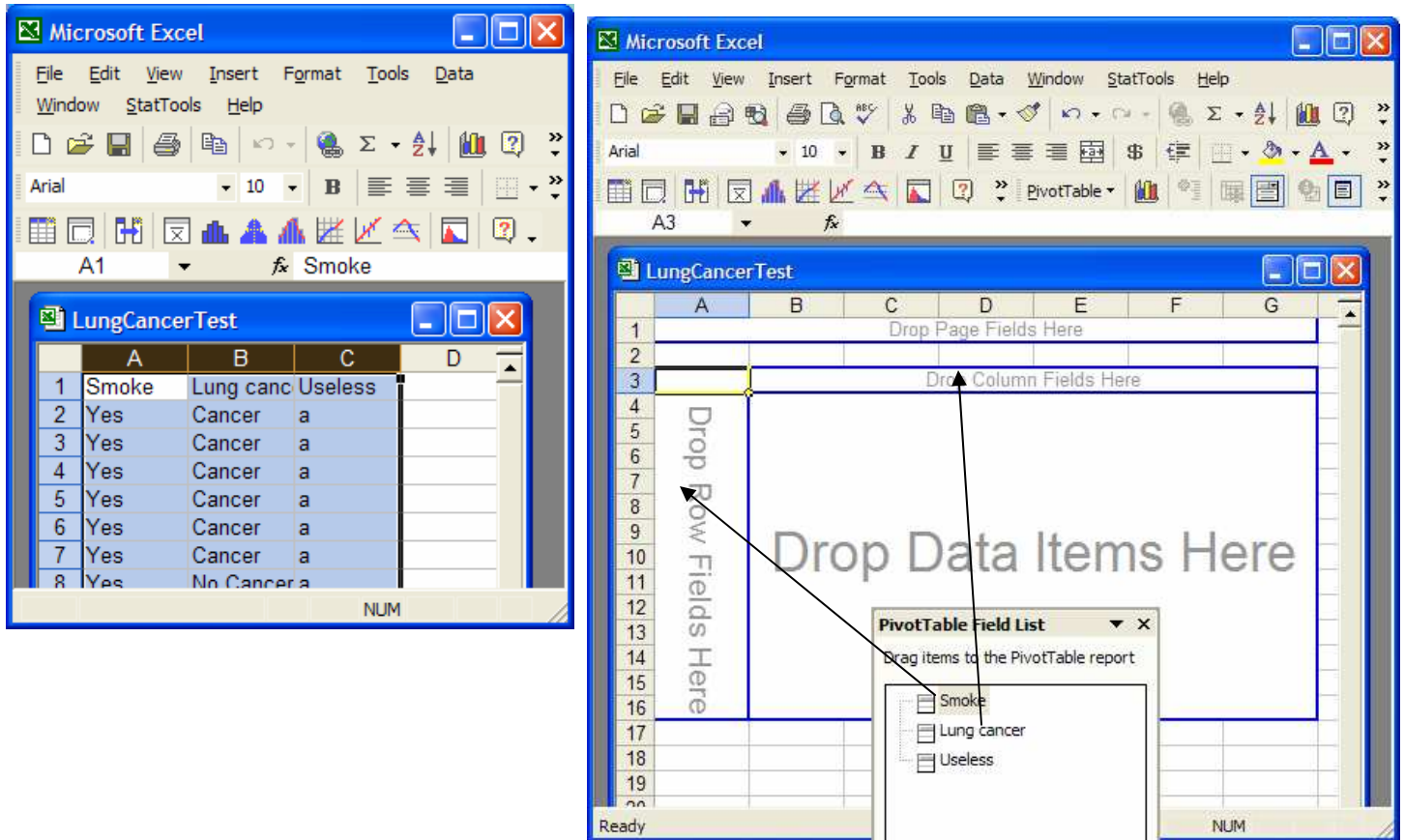


You will get the window left. If you get a line in your table that reads **(blank)**, you should get rid of it by clicking on the black down arrow. You will get the middle table below. Uncheck the box next to **(blank)** and hit **OK**. Close the **PivotTable Field List** and you are done.

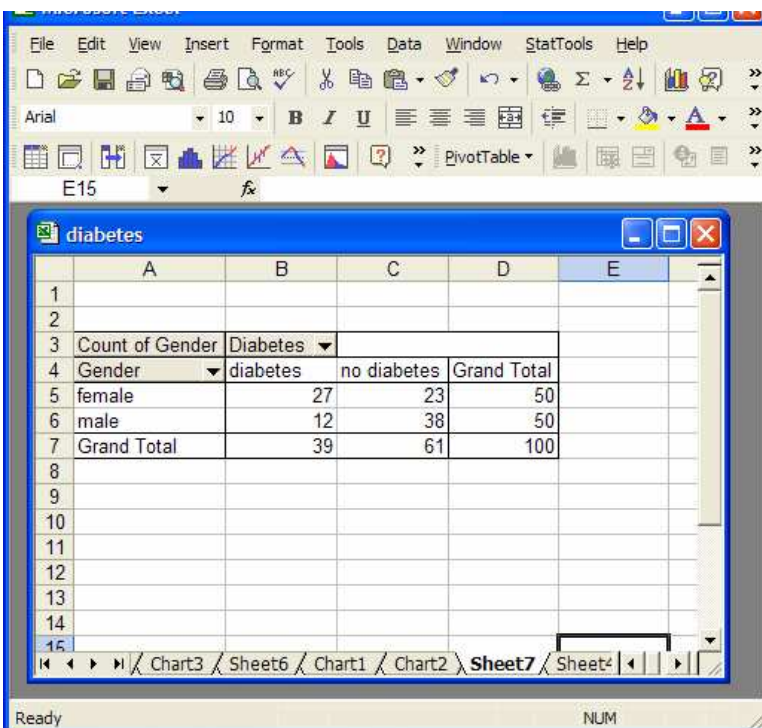


## Creating a Pivot table when you have two categorical variables:

First highlight all of your data as I've done below left. In this data set I have 3 variables, *Smoke*, *Lung Cancer* and *Useless*. Next click through the following pull down menus: **Data** → **Pivot Table and PivotChart Report** and click through all the windows shown on the bottom of page1 until you get something like the window to the right.



Now you have to decide which will be the row variable (the explanatory variable) and which will be the column variable (the response variable). In my example *Smoke* is the explanatory and *Lung Cancer* is the response variable. Drag the explanatory variable from the **PivotTable Field List** to the **Drop Row Fields Here** box and drag the response variable to the **Drop Columns Fields Here** box.



If you have one, get rid of the **(blank)** row in your pivot chart as shown on page 2. To complete your pivot chart, drag either variable of interest to the big middle **Drop Data Items Here** box. You are now done. You can close the **PivotTable Field List** box.

Your output should look similar to the chart left. You can change names by highlighting them the typing in the new name. You can also right click on a cell, click **Field Settings** and select count, average, etc.