

CIS 100
Databases in Excel
Creating, Sorting, Querying a Table
and Nesting Functions

Objectives

- Create and manipulate a table
 - Deleting duplicate records
 - Delete sheets in a workbook
 - Add calculated columns to a table
 - Use icon sets with conditional formatting
 - Use the VLOOKUP function to look up a value in a table
 - Print a table
 - Add and delete records and change field values in a table
 - Sort a table on one field or multiple fields
 - Query a table
 - Apply database Functions SUMIF and COUNTIF
 - Display automatic subtotals
 - Use Group and Outline features to hide and unhide data
-

Creating the Database (also called a Table)

- In **A5**, type **Sales Reps Database**
- Press **enter**
- Select from **A5 to H5**
- **Right click** in the selected cells
- Click **Format Cells**
- Click the **alignment tab**
- In the text alignment area, click the **horizontal ▼**
- Click **center across selection**
- Click **OK**
- With the cells still selected, on the **home tab**, in the **styles group**, click the **cell styles button** [*more button on a wide screen monitor*]
- In the gallery, click on **Title**

Entering the Field Names

- Click in **A6**, type **first** in all lower case letters
- Type the first five of the field names across row 6—**[only type first, last, city, state, sales,—we will add three fields later]**
- **Select the field names** and **center** them in their cells
- With the cells still selected, in the styles group, click on the **cell styles button**
- Click on **Heading 3**

- Because the cells are still selected, **click outside of the selected cells**

Changing the Sheet Name and Changing the Tab Color

- Double click the **sheet1 tab**
- Type **sales reps** as the name
- Press **enter**
- **Right click** the sheet tab
- Click **tab color**
- Click one of the **blues**

Saving the workbook

- Save the file on your usb drive as **sales rep records**

Converting Cells to a Database (table is the current term for a database)

You are going to do two things at once. You will convert the cells into a table (database) and use a predesigned format to determine how it will look.

- Select the **field names [only need to select field names now, not a first row also]**
- Make sure you are on the **home ribbon tab**
- In the styles group, click **Format as table**
- In the table gallery, in the **medium section**, click on **column 2, row 1**
- **Click** in the **My table has headers** option so that Excel knows you have field names as the first row
- Click **OK**

You are not stuck with every single formatting attribute that the predesigned table format contains. You can change individual attributes.

Formatting the Fields of the Database *before* Entering Records

*Because you formatted the table for using a gallery format, if you want the formatting of the cells containing records to be any different from the gallery format, you must make that format change **now** in the **first row** where records will go.*

Centering State Field

- Select **D7**
- Click the **Home** ribbon tab; in the **Alignment group**, click the **center button**

Formatting Sales Field for a Comma as Thousands Separator

- Click in **E7** alone
- **Right click E7**, the sales cell on the first *record* row
- Click **format cells**
- Click the **number tab**
- In the category group, click **number**
- Click in the **option for the thousands separator** (a comma every 3 digits to the left of the decimal point)

You want whole numbers only, even though you are formatting amounts of money.

Formatting for whole dollars—no Cents

- Click the **decimal places ▼ two times** so that no decimal numbers show—no cents
- Click **OK**

The sales figures will now show with commas as the thousands separator and will round to the nearest dollar.

Modifying the Table Style

Even though you cannot modify or delete an existing style, you can duplicate an existing style and make changes to the duplicate and save it under another name. That's what we will do here.

- Click in **A7**
- Make sure you are on the **Home Ribbon tab**
- In the **Styles group**, click **Format as Table** button
- In the **medium** section, **right click** the medium blue style in **column 2, row 1**

Notice that modify and delete are dimmed so that they cannot be chosen. Now we will make a duplicate of the style and then make the changes that we want to this duplicate style.

- On the shortcut menu, click **Duplicate**

You see the Modify Table Style dialog box; the table element section lists things that can be modified. You won't change it very much. You will change an existing style by adding bolding and then save it under another name.

- Since this is going to be a new style, **Click in the Name text box**
- **Delete the existing name**, and type **blue_style**
- In the table element list, click on **Whole Table** to make sure it is selected

You want to bold the font in the entire table.

- Click **Format** to see the Format Cells dialog box
- In the Font style area, click on **Bold**

- Click the **color ▼**
- In the color palette, **click on the next to the bottom color in the second column.**
- Click **OK** (to close the dialog box)

You have just created a new style by taking an existing style, duplicating it, making a couple of changes, and saving it under a new name.

Changing the Field Names Font to White for Readability

- **Select the field names**
- Up on the ribbon, in the Font group, click the **font color ▼**
- Click **white**
- **Click outside** of the selected cells

Adding Records to the Table

- **Starting in A7, type the information shown** in Figure 1 into each field, and **press Tab to go to the next field** [remember—just first, last, city, state, sales]
- **Stop after typing the Bob Nguyen record; do not press Tab yet.**

first	last	city	state	sales
Mike	Foster	Brea	CA	48,000
Lou	Fisher	Corona	CA	40,000
Jake	Ovitz	Downey	CA	44,000
Alice	Smith	Tustin	CA	43,000
Rob	Smith	Tustin	CA	55,000
Al	Ota	Chicago	IL	51,000
Juan	Rivera	Chicago	IL	53,000
Ron	Ribera	Peoria	IL	63,000
Nat	Rose	Peoria	IL	38,000
Knut	Jones	Dallas	TX	61,000
Jan	White	Dallas	TX	35,000
Bob	Nguyen	Houston	TX	52,000

Figure 1

On row 19, we will deliberately type a duplicate record.

- Press **tab** to move on to row 19 if you are not there already
- **Again type the information for Knut Jones.**
- Press **enter** at the end of this record *to end your database*
- Proofread your records and make any necessary corrections.

Duplicate Records and how to Get them out of your Database

It is easy to end up with a duplicate record in your database if they have not been sorted yet. This is especially true if more than one person enters the records. Fortunately, there is a way to delete records without having to read through all of them.

- Click anywhere in the database.
- Click on the Tables Tools Design ribbon tab.
- In the tools group, click the Remove Duplicates button
- In the Remove Duplicates dialog box, Click the Select All button
- Click OK.
- Click OK again to finish up.

NOTE: To add rows later, you can just click in the last cell of a completed row and press Tab.

- Click outside of the selected cells

Add New Fields to a table (add to the right)

- Click in **F6**
- Type **gender** as the field name, and press **enter**
- Click in **G6**
- Type **comm** as the field name, and press **enter**
- Click in **H6**
- Type **comment** as the field name, and press **enter**

Validating Information being Entered into the Cells

Validation is putting a rule or rules on a cell that tells Excel what you will allow in a cell. In other words, what you allow is valid. It will prevent the user from entering incorrect (invalid) information in the cell.

- **Select all the cells in the gender field, but not the title**
- Click the **Data ribbon tab**
- In the **Data Tools group**, click on **data validation button**
- On the drop down menu, click **data validation**

There are three tabs in the Data Validation dialog box

- Click the **Allow** ▼

Figure 2 shows what the choices in the Allow menu mean:

Item on list	What it allows
any value	Anything
whole number	whole numbers in a specific range
decimal number	decimal numbers
List	only an item from a list
date	a range of dates
Time	a range of times
text length	a certain length of text
custom	can specify a formula—example: >25 requires entry to be more than 25

Figure 2

- Click **List**

You can do lists two ways: just type the list in the dialog box or if you have a longer list typed somewhere else in the sheet, just refer to its location. We have a very short list; therefore, we will merely type the list in the dialog box.

- In the source box, type **f,m**
- Click in the **in-cell dropdown option** to the right of the allow text box.

You don't want a drop down box showing f and m each time you type a record because it just gets in the way and users can remember the two choices anyway without a choice showing each time.

- Click the **Error Alert Tab** to prepare an error message that will show if the user makes a mistake.
- Make sure that the **Show error alert after invalid data is entered option is checked**
- Click the **style** ▼ to see the choices (we will use the **stop sign**)
- In the **Title text box**, type **Gender Invalid**
- Click in the **Error message text box**
- Type **Gender must be entered as f or m. Please try again.**
- Click **OK**

Adding Data to the New Gender Field

- Click in the first blank cell in the new field—Enter the information in Figure 3.

F7	m		F14	m
F8	f		F15	m
F9	m		F16	m
F10	f		F17	f
F11	m		F18	m
F12	m			
F13	m			

Figure 3

- Select the **gender cells** and click the **home** ribbon tab
- In the alignment group, click the **center button**

Adding Data to the New Commission (Comm) Field for 5%

- Make sure you are on the **Data ribbon tab**
- Click in **G7**
- Type = [@ sales] * 5%

*Note: Do not type the information in this note. If sales had been a field name with more than one word, you would have had to type it like this [@[sales]]*5%*

- Press Enter

Use Conditional Formatting with Icons

- **Select** all the cells with **commissions** in them
- Click on the **home ribbon tab**
- In the **styles** group, click **Conditional formatting**
- Click **New Rule**
- In the **bottom half** of the dialog box, click the **Format Style ▼**
- **Click** the ▼ for **Icon Sets** in the list
- Click the **icon style ▼**
- Scroll down to and click the **5 arrows (colored) style near the bottom** of the list
- In the **Type area at the right of the dialog box**, click the **top ▼**
- Change it to **Number**
- **Change the rest** of the type boxes to **number**
- In the **Value area**, on the same line as the green arrow, **delete the 0 and type 2700**
This means that Excel will add a green up arrow if the number is over or equal to 2700
- In the **second value text box**, **delete the 0 and type 2100**
This means that Excel will add a yellow right up arrow if the number is under 2700 and more than or equal to 2100
- In the **Third value text box**, **delete the 0 and type 2000**
This means that Excel will add a yellow right arrow if the number is under 2100 and more than or equal to 2000
- In the **fourth value text box**, **delete the 0 and type 1900**
- This means that Excel will add a yellow right down arrow if the number is under 2000 and more than or equal to 1900
- **Notice the red down arrow now shows <1900**
- **Press Tab**

You can see that the red arrow will appear for numbers less than 1900

- Click **OK**
- Click **outside** of the **selected cells**

Putting in the Center Dividing Line

- Select from I(eye)1 to I24
- Make sure you are on the **Home ribbon tab**
- In the font group, click the ▼ for **fill color**
- Click on a **light gray**
- Hold down the Alt key and make **column I (eye) 5 pixels wide** or as close as you can get

Use the VLOOKUP Function

- Select **J6 and K6**
- In the alignment group, click **Merge & Center**
- In the merged cell, type **vlookup table**
- **Type** both columns of the **vlookup table** in Figure 4.

	J	K
7	0	Work with
8	40000	Average
9	50000	Good
10	60000	Excellent

Figure 4

Formatting for comma and decreasing decimals to no cents

- Select **J8 through J10**
- In the number group, click the **comma style** button
- Also in the number group, click the **decrease decimal button two times**

Naming the Lookup Table

- Select from **J7 to K10**
- In the name box, type **performance_table** and press **enter**

Typing the vlookup function

- Click in **H7** where you want the lookup performed
- Type **=vlookup(E7, performance_table, 2)**
- Press **enter**—the cells in the comment field all fill in with comments

Adjusting the Column Widths

- Select columns **A through H**, and **double click the right border of column H**
- **Click outside** of the selected cells

Using the Total Row

- Click somewhere **in the table** to make it active
- Click the **Design ribbon** tab
- On the **ribbon**, in the **table style** options **group**, click **total row**; you see a total row at the bottom of the table

Notice the number 12 in H19; Excel wants to do math in the total row. Because the right most column does not contain numbers, Excel does the only kind of math it can with the last column; so...it adds the records.

- Let's click in a field with some numbers—Click in **E19** (sales field)
- Click the **▼ to the right of the cell**
- Click **Sum**
- **Try some other ones** like average if feasible
- In the **table style options group**, click **total row** to remove it

Printing a Table

If you click in a table, that makes it active. If a table is active, you will get a Table option in the print dialog box so that you can print just the table

- Click **in the table** to activate it
- Click the **File ribbon** tab
- Click **print**
- Click the **print active sheet ▼**
- Click **Print selected table**
- Click **page setup**
- In the orientation area, change to **landscape**
- Click **OK**
- Also in the settings area, click the **no scaling ▼**
- Click **fit sheet on one page**
- Click the **back button** to return to the editing screen

Sorting the Table Three Different Methods

Method 1: sort on one field on last name field in A to Z order using sort and filter button on the Home Ribbon

- Click on the **home ribbon** tab
- Click in **B7** (the last name field)
- On the far right of the ribbon, in the editing group, click the **A Z Sort and Filter** button
- Click **Sort A to Z**—the records are sorted in A to Z order

Method 2: Sort on one field on last name field in Z to A order using sort and filter on the data ribbon

- Make sure you are in the **first record in the last name field**
- Click on the **data ribbon tab**
- In the sort and filter group, at the far left of the group, click **the Sort Z to A button**. It looks like Figure 5.



Figure 5

You can see that the records are sorted in alphabetical order from Z to A by the last name.

Method 3: sort on one field, on the sales field, using Sort Command in Autofilter

- Click the **Home ribbon tab**
- Make sure that the **table is active**
- Click the **autofilter button in the sales field**
- Click **Sort Smallest to Largest**

The next thing that you will do is sort on first name within last name within city within state.

You can sort a Table on up to 256 fields at a time using the Custom Sort Command

- Make sure you are on the **Home ribbon tab**
- **Click on a cell** in the table — doesn't make any difference which one
- In the editing group at the far right of the ribbon, click on the **Sort and Filter button**
- Click **Custom Sort**
- Click the **Sort by ▼** to see the field names

Ask yourself which is the last field named in the series of within's [state]

- Click the **State** field (this is the last field named)
- Leave the **Values option as is** in the *Sort On* box
- You want **A to Z** in the order box this is your sorter order
- Click the **Add Level** button to tell Excel which field you want sorted next

- Click the **Then by ▼** to see the field names again
- Click on **City**
- **Leave Values** in the *Sort On* box
- **Leave the order set** to A to Z
- Click the **Add Level** button

- Click the **Then by ▼** to see the field names again
- Click on **Last (Name)**
- **Leave Values** in the *Sort On* box

- **Leave the order set** to A to Z
- Click the **Add Level** button
- Click the **Then by ▼** to see the field names again
- Click on **First** (name)
- **Leave Values** in the *Sort On* box
- **Leave the order set** to A to Z
- Click **OK** to sort the table

Subtotals

Assume you are a sales manager and want to do some sales analysis. You might want to total the sales for each state and then look at each state's sales in detail.

You can only subtotal one field; it is called the control field. You must decide which field you want subtotaled — *we will use state—Then you should sort the records so that all the records for each state are together.* You have already sorted so that all the states are in groups, so you can do subtotals by state.

Converting the records to a range

We will start by converting the records into a range instead of a database. This is because the subtotals feature is not available in a table per se, only in a range. When we get done with the subtotalling, we will put the rows of data back into a database.

- **Right click** anywhere in the table
- In the shortcut menu, click on **Table** (about 2/3 of the way down the menu)
- Click **Convert to Range**
- Click **Yes** — *notice that the autofilter buttons are gone*

Setting up the Subtotaling

- Click on the **Data** ribbon tab
- In the outline group at the right of the ribbon, click **Subtotal**
- *What do you want at each change in the state? A sum*
- So... click **Sum** if necessary
- *Then you have to decide the fields in which you want the sums (or subtotals)*
- You can't sum anything but sales or commissions because they are the only fields with numbers in them, so ... **deselect grade** in the *Add subtotal to* area
- **Click the sales and commission fields** to designate where you want subtotals
- Click **OK**

Outline to hide and unhide data by looking at different levels of summing (all records, state subtotals, grand total)

Dots stand for individual records. Second level minus signs for states means that there are no hidden records in each of the state groups of records.

Click **1** at the top of the outline group and examine what is happening
Click **2** at the top of the outline group and examine what is happening
Click **3** at the top of the outline group and examine what is happening
Click back on **2** again

Basically, the plus signs mean “more.” In a nutshell, a plus sign indicates that there are records that do not show. There are more records that are hidden.

- Click on the **plus button for CA** and see the detail and minus sign for that state group

The minus sign means that there are no more records for this group. No records are hidden.

- Click the **minus button for CA** to close the detail for that state
- Click on the **plus button for IL** and see the detail and minus sign for that state group
- Click the **minus button for IL** to close the detail for that state
- Click on the **plus button for TX** and see the detail and minus sign for that state group
- Click the **minus button for TX** to close the detail for that state
- Click on **3** in the outline level buttons

With all of the records showing, in the outline group on the ribbon, click the subtotal button to get the subtotal dialog box back

- Click **Remove all**

What is the difference between using the outline feature buttons showing 1, 2, and 3 at the top of the side panel and the groups with the + and – ? Using the group feature, you can look at different levels of detail by group at the same time, but with the outline feature, you don’t have that flexibility—you have to display all the information for all the groups at any particular level —no picking and choosing.

Click Remove all to remove the subtotals.

Putting the Range back into a Table

- Select from **A6 to H18**
- Click on the **home ribbon tab**
- In the Styles group, click **the Format as Table** button
- At the very top of the table gallery, **click on the format you created**
- In the little *Format as Table* dialog box, click **OK**
- **Click outside** the table

A query is looking for records in a table that meet certain criteria (conditions). Suppose you only want to see the records where the comment is good and the state is CA.

Query a Table using Autofilter (filter two fields)

- Click **inside** the table
- Click on the **autofilter** in the **state** field
- Click on (select) **All** to deselect the states
- Click in the box for **CA**

- Click **OK**—*you only see the records for California now, but remember we want to see those in CA with good in the comment field*

- Click on the **autofilter** button for **comment**
- **Click** (select) **All** to clear all of the check marks

Notice that some of the rows are missing

- Click on **good**
- Click **OK**—*only one row shows*

Showing all of the Records Again

- Make sure the **table is active** by clicking in it
- Click the **Data ribbon tab**
- In the **sort and filter group**, click the **filter button** (looks like a funnel)

Suppose you want to use autofilter to see only those records where sales are between 44,000 and 56,000? You will need to use custom filtering.

Custom Filtering with AutoFilter

- **Click** somewhere in the **table**
- In the sort and filter group, click **filter** again to get the autofilter buttons back
- Click the **sales autofilter** button
- Point to the **Number Filters** on the pull down menu
- At the bottom of the fly out menu, click on **Custom Filter**
- Click the ▼ for the **first text box**
- Click on “**is greater than or equal to**”
- Type **44000** in the second text box
- Click the ▼ for the **second text box on the left**
- Click on “**is less than or equal to**”
- Click in the second text box on the right and type **56000**
- Click **OK**

You only see the records where the sales are between 44,000 and 56,000

- **Click in the table**
- To get the records back, **in the sort and filter group**, click the **filter** button on the ribbon

Now you want to have your filtered (those that met the conditions) records put into a separate area

Setting up the Criteria Range for Advanced Filtering

- Select the database title row and the row of field names (**A5 to H6**)
- **Ctrl C** to copy
- Click in **A1**
- **Ctrl V** to paste
- Press **Esc**
- Click in **A1** and type **Criteria Area**
- Press **enter**

Setting up the Extraction Range for Advanced Filtering (where the records that are selected will be copied)

- Select **A5 to H6** again
- **Ctrl C** to copy
- Click in **A21**
- **Ctrl V** to paste
- Press **Esc**
- Click in **A21**, and replace the existing text with Extraction Area
- Press **enter**

Suppose you want to see only records for the state of IL AND where the comment is “work with.”

*When more than one condition must be met in order for the record to be selected, you are said to be **anding** because the records must meet more than one condition.*

- Click in **D3** and type **IL**
- Click in **H3** and type **work with**
- Click **inside the table** to activate it
- Make sure you are on the **Data ribbon tab**
- In the **sort and filter group**, click on **Advanced** [may turn off autofilter] and shows the advanced filter dialog box
- Change the **criteria range** from **A2 to H3**
- Click **OK**
- To show all the records again, **click in the table** to activate it

In the sort and filter group, click Assume you are a sales manager and want to do some sales analysis. You might want to total the sales for each state and then look at each state’s sales in detail. WE just did anding, now we will do ORRING

ANDING (more than one condition (criterion) must be met—listed on one row of criteria area ORRING, (only one condition of several has to be met.)—listed on different rows of criteria area

Suppose you want to extract and copy into the extraction area all the records where the state is **TX** OR the sales are **over 50,000**

Each row is a set of criteria, so you put **TX** in the state field on one row in the criteria range and **>50000** in the sales field on the next row down in the criteria area

Extracting Records (copying selected records to another place in the sheet-oring)

- In **D3**, in the state field, type **TX**—abbreviation must match, not Texas
- In **E4**, type **>50000**
- Press **enter**
- **Delete work with in H3**

- **Click** in the **table** to make it active
- In the sort and filter group, click **advanced**
- Click in the **copy to another location option**
- In the Criteria range text box, change **H3** to **H4**
- Check the *Copy to* area and make sure it designates **\$A\$22:\$H\$22** (extraction area)
Click **OK**
- Scroll down to see that the records are all for either TX or over 50,000

Wild Cards and Leaving a blank row in the criteria Area

There are two wild cards. One wild card, the question mark, takes the place of a single character. The other, the asterisk (*), takes the place of any number of characters.

- Delete all the criteria
- In **E3**, in the sales field, type **>45000**
- In **B3**, type **O*** [using a wild card to find all those last names that start with O]
- **Click** in the **table** to make it active
- In the sort and filter group, click **advanced**
- Click in the **copy to another location option**
- We are **leaving row 4 blank** and in the criteria range on purpose
- **Check** the *Copy to* area and make sure it designates **\$A\$22:\$H\$22**
- Click **OK**
- Scroll down to see that all of the records copied into the extraction area; this is because there was no criteria in row 4 and so all of the records met the condition to be selected.

Fixing the empty criteria row problem

- Click in the **table**
- Click **advanced**
- In the criteria range text box, carefully change **\$H\$4 to \$H\$3**
- Click in the **Copy to another location option**

Only Ota was extracted

Suppose you knew you had employees in Illinois who were named either Ribera or Rivera and wanted to find who they were.

The ? Wild Card

- Using the single character wild card to search for employees whose names are spelled Ri_era
- **Delete the existing criteria**
- Click in **B3** and type Ri?era
- **Click in the table**
- In the Sort and Filter group, Click **Advanced**
- Click in the **Copy to another location option**
- Click **OK**

You see Ron Ribera and Juan Rivera.

Database Functions

You cannot get totals for states with the subtotal function without first sorting the database so that all the records are each state are together. However, with the database functions, you can get totals, averages, etc. by any field with numbers even if the records are not sorted the way they were for subtotals.

We will first name the table so that we can refer to it by its name rather than the upper left cell address to the lower right cell address.

Select from **A6 to H18**

Click in the name box and type **database** as the name, and press enter

Click outside of the selected cells

Test the name by clicking the name ▼ and clicking on database

Select from **J12 to O12**

Click the **Home ribbon** tab

In the **alignment** group, click **merge and center**

In the merged cell, type **Statistics Area for Database Functions**

In the Styles group, click **Cell styles**

Click **Title**

Change the font size to **16**

Setting up the Criteria Area you will need to do the Database Functions

- In **J13**, type **state** [all lower case]
- In **K13**, type **state** [all lower case]
- In **L13**, type **state** [all lower case]
- In **M13**, type **city** [all lower case]
- In **N13**, type **gender**
- In **O13**, type **gender**

- In **J14**, type **CA**
- In **K14**, type **TX**
- In **L14**, type **IL**
- In **M14**, type **Dallas**
- In **N14**, type **M**
- In **O14**, type **F**

- In **J17**, type **Highest sales in California**
- In **J18**, type **Lowest sales in Illinois**
- In **J19**, type **Average commission in Texas**
- In **J20**, type **Total sales for Illinois**
- In **J21**, type **Number of reps in Dallas**

- In **N17**, type **=dmax(database,"sales",K13:K14)** [point to range for last argument]
- In **N18**, type **=dmin(database,"sales",L13:L14)** [point to range for last argument]
- In **N19**, type **=daverage(database,"comm",K13:K14)** [point to range for last argument]
- In **N20**, type **=dsum(database,"sales",L13:L14)** [point to range for last argument]

DCOUNT needs a numeric field, so we will use the commission field—in our case, every rep has earned a commission. If a rep had no sales, you would put a zero in for sales; do not leave the cell empty.

- In **N21**, type **=dcount(database,"comm",M13:M14)**

SUMIF and COUNTIF

- Select **J23 to O23**
 - In the alignment group, click on **merge and center**
 - In the merged cell, type **Statistics Area for SUMIF and COUNTIF**
 - In the Styles group, click **Cell Styles**
 - Change the **font size to 16 or 14** [whichever fits best in the room available]
 - In **J24**, type **No. of female reps.**
 - In **J25**, type **Total sales of female reps.**
 - Click in **N24** and type **=countif(F7:F18,"f")**
 - Press **enter**
 - In **N25**, type **=sumif(F7:F18,"f",E7:E18)**
 - **Ctrl S** to save the workbook
-

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	first	last	city	state	sales	gender	comm	comment							
2		Ri?er?													
3															
4															
5	Sales Reps Database														
6	first	last	city	state	sales	gender	comm	comment		vlookup table					
7	Mike	Foster	Brea	CA	48,000	M	2,400	average		-	work with				
8	Lou	Fisher	Corona	CA	40,000	F	2,000	average		40,000	average				
9	Jake	Ovitz	Downey	CA	44,000	M	2,200	average		50,000	good				
10	Alice	Smith	Tustin	CA	43,000	F	2,150	average		60,000	excellent				
11	Rob	Smith	Tustin	CA	55,000	M	2,750	good							
12	Al	Ota	Chicago	IL	51,000	M	2,550	good		Statistics Area for Database Functions					
13	Juan	Rivera	Chicago	IL	53,000	M	2,650	good		state	state	state	city	gender	gender
14	Ron	Ribera	Peoria	IL	63,000	M	3,150	excellent		CA	TX	IL	Dallas	M	F
15	Nat	Rose	Peoria	IL	38,000	M	1,900	work with							
16	Knut	Jones	Dallas	TX	61,000	M	3,050	excellent							
17	Jan	White	Dallas	TX	35,000	F	1,750	work with		Highest sales in California				55000	
18	Bob	Nguyen	Houston	TX	52,000	M	2,600	good		Lowest sales in Illinois				38000	
19										Average commission in Texas				2466.7	
20										total sales for Illinois				205000	
21	first	last	city	state	sales	gender	comm	comment		number of reps in Texas				3	
22	Juan	Rivera	Chicago	IL	53,000	M	2,650	good		Statistics Area for SUMIF and COUNTIF					
23	Ron	Ribera	Peoria	IL	63,000	M	3,150	excellent		No. of Female Reps.				3	
24										Total sales of Female Reps.				118000	
25															
26															