

Microsoft® Excel 2007 Intermediate II

A Workshop for San Diego State University Faculty and Staff



NOTE:

This handout was not designed to be a standalone tool to teach the reader to do the task. It was designed as a review for the individual that has previously taken the applicable BATS workshop.

Where to Find Help When You Need It

Help from your Division/College's Computer Consultant

Some divisions and colleges have computer consultants assigned to them. You can contact these consultants when you need help. To determine if you have a consultant assigned to your division or college, look to: <http://rohan.sdsu.edu/~facstaff>

Help from the BATS Web Page

BATS (Baseline Access, Training and Support) is a California State University initiative to provide all students, faculty, and staff with "baseline" access to information resources via networks, training in the uses of baseline hardware and software systems, and ongoing professional and technical support for utilization of computer resources at San Diego State University. You can access the BATS Web Page by pointing your browser to: <http://its.sdsu.edu/~bats/>

Help in the San Diego State University, Faculty Room

The Faculty Room is staffed Monday through Friday with computing consultants who will try to answer your questions.

Location: Adams Humanities, 1109
Phone Number: x45727
Semester Hours: 7:30am – 6:00pm Monday -Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Faculty Computing Help Line

Phone Number: x41348 **E-mail:** helpline@mail.sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Staff Computing Help Line

Phone Number: x40824 **E-mail:** staffhelp@sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

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CUSTOMIZING EXCEL One of the strengths of Excel is the ability for each individual user to customize the application so that it works the way the user wants it to work.

To customize Excel's settings, click on the **Microsoft Office button** and then click on **Excel Options**.

The options are separated into various categories. Browse each category and review the options available to you.

As you browse through the various categories you can click on the **question mark (?)** in the upper right corner of the Excel Options window to see a description of each of the options.

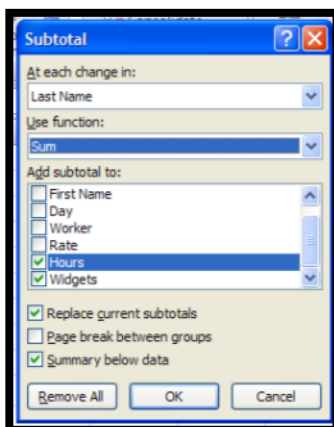
CUSTOMIZING THE QUICK ACCESS TOOLBAR You cannot customize the Ribbon in Excel 2007. However, you can customize the Quick Access Toolbar.

To customize the toolbar, click on the **drop down arrow** on the right of the toolbar and select one of the available options. If you add multiple commands to this toolbar, it might be easier to see if you anchor it below the Ribbon.

To anchor the toolbar below the Ribbon, click on the **drop down arrow** on the right of the toolbar and select **Show Below the Ribbon**.

If you need to see more of your screen you can minimize the Ribbon. To do this, click on the **drop down arrow** on the right of the toolbar and select **Minimize the Ribbon**.

SUBTOTALS Excel can automatically create subtotals in your worksheet.



Before you add subtotals you will need to sort the data range by the field that you want to create subtotals for.

1. Once sorted, click on the Data tab and then click on the Subtotal button in the Outline group. The Subtotal window will open.
2. In the “**At each change in:**” window, select the field that contains the data group for which you want subtotals.
3. In the **Use Function** window select the function to be used to obtain the subtotals.

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4. In the **Add subtotal to:** window choose the field(s) for which you want subtotals.

5. Click **OK**.

Excel will add subtotals to your data and it will automatically create outline bars for you to use to view your data.

OUTLINING With larger worksheets, it is sometimes hard to get the big picture represented by the data. Sometimes you want to hide some of the data and only see totals.

With Excel, you can create different outline levels in your worksheet. This way you can hide or reveal the data as needed.

You can create your own custom outline levels or you can have Excel automatically create outline levels if your data has either subtotals or formulas totaling the data.

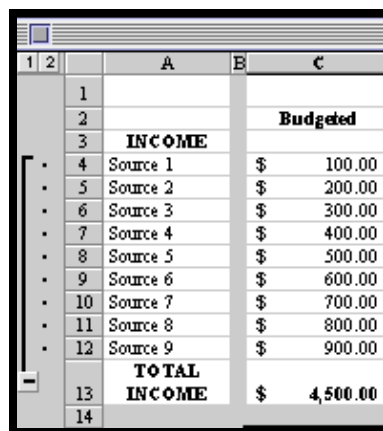
Create a Custom Outline Level

To create a custom outline level:

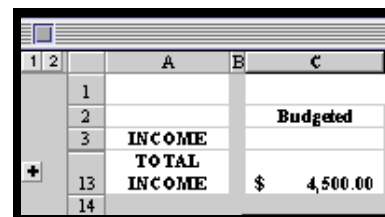
1. **Select the rows or columns** for which you want to create an outline.
2. Click on the **Data** tab and then click on the **Group** button in the Outline group. Click on **Group**.

Using Outlines

Once an outline is created, you can click on the Show/Hide Detail buttons (the plus and minus buttons) to display or hide the contents of the outlined region.



	A	B	C
1			
2			Budgeted
3	INCOME		
4	Source 1	\$	100.00
5	Source 2	\$	200.00
6	Source 3	\$	300.00
7	Source 4	\$	400.00
8	Source 5	\$	500.00
9	Source 6	\$	600.00
10	Source 7	\$	700.00
11	Source 8	\$	800.00
12	Source 9	\$	900.00
13	TOTAL		
14	INCOME	\$	4,500.00



	A	B	C
1			
2			Budgeted
3	INCOME		
13	TOTAL		
14	INCOME	\$	4,500.00

Create an Automatic Outline Level To create an automatic outline level:

1. **Select a cell in the data range** for which you want to create an outline.
2. Click on the **Data** tab and then click on the **Group** button in the Outline group. Click on **Auto Outline**.

Once an outline is created, you can click on the **Show/Hide Detail** buttons (the plus and minus buttons) to display or hide the contents of the outlined region.

Removing an Outline Level To remove an outline level:

1. Select a cell in the outlined data.
2. Click on the **Data** tab and then click on the **Ungroup** button in the Outline group. Click on **Ungroup**.
3. At the Ungroup window, choose either **rows or columns** to be ungrouped. Click on **OK**.

The outline is automatically deleted.

AUDITING Excel offers an easy way to check your worksheets to ensure that your formulas are created correctly. With Excel, you can display tracer lines to find **precedents** (cells that are referred to by a formula), **dependents** (cells that contain formulas that refer to other cells), and **errors** in any cell.

Tracing Precedents To determine which cells are used in the calculation of a value in another cell, select the cell with the calculated value.

Click on the **Formulas** tab and select **Trace Precedents** in the Formula Auditing group.

Excel will graphically show you which cells are used in the calculation of the value in the selected cell. Click the button repeatedly, and Excel will take you deeper into the precedent relationship.

	Budgeted	Actual	Difference
\$	50.00	77.00	(27.00)
\$	75.00	67.00	8.00
\$	112.00	456.00	(344.00)
\$	160.00	80.00	80.00
\$	252.00	255.00	(3.00)
\$	370.00	444.00	(66.00)
\$	567.00	445.00	122.00
\$	850.00	709.00	61.00
\$	1,275.00	1,509.00	(314.00)
\$	3,727.00	4,202.00	(475.00)

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Tracing Dependents To determine which cells depend on the value in a specific cell, select the specific cell.

Click on the **Formulas** tab and select **Trace Dependents** in the Formula Auditing group.

Excel will graphically show you which cells rely on the value in the selected cell. Click the button repeatedly, and Excel will take you deeper into the dependent relationship.

	Budgeted	Actual	Difference
\$	100.00	\$ 80.00	\$ (20.00)
\$	200.00	\$ 240.00	\$ 40.00
\$	300.00	\$ 224.00	\$ (76.00)
\$	400.00	\$ 589.00	\$ 189.00
\$	500.00	\$ 666.00	\$ 166.00
\$	600.00	\$ 687.00	\$ 87.00
\$	700.00	\$ 705.00	\$ 5.00
\$	800.00	\$ 799.00	\$ (111.00)
\$	900.00	\$ 1,200.00	\$ 300.00
\$	4,500.00	\$ 5,190.00	\$ 580.00

Removing Precedent/Dependent Arrows

You can remove all the arrows by clicking on the **Formulas** tab and then clicking on the **Remove Arrows** button in the Formula Auditing group.

If you want to remove arrows one level at a time click on the **Formulas** tab and then click on the **drop down** arrow to the right of the Remove Arrows button. Choose either Remove Precedent Arrows or Remove Dependent Arrows.

Tracing Errors

When cells return an error result, such as #VALUE!, select the cell with that result and click on the **Formulas** tab, then click on the arrow to the right of the Error Checking button and choose **Trace Error**.

	Budgeted	Actual	Difference
INCOME			
Source 1	\$ 100.00	\$ 80.00	#VALUE!
Source 2	\$ 200.00	\$ 240.00	\$ 40.00
Source 3	\$ 300.00	\$ 224.00	\$ (76.00)
Source 4	\$ 400.00	\$ 589.00	\$ 189.00
Source 5	\$ 500.00	\$ 666.00	\$ 166.00
Source 6	\$ 600.00	\$ 687.00	\$ 87.00
Source 7	\$ 700.00	\$ 705.00	\$ 5.00
Source 8	\$ 800.00	\$ 799.00	\$ (111.00)
Source 9	\$ 900.00	\$ 1,200.00	\$ 300.00
TOTAL INCOME	\$ 4,500.00	\$ 5,190.00	#VALUE!

The normal trace arrows are drawn which enables you to track down the source of the error message.

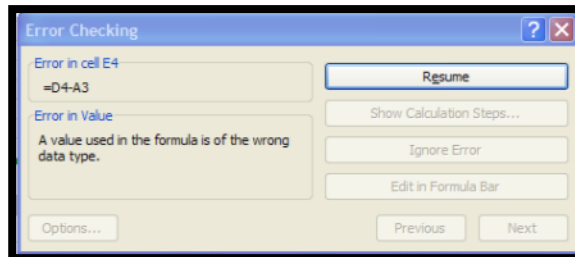
When you see the following symbol, this means that the trace extends to another worksheet or workbook. When you double click on the **symbol** you will be told which workbook or worksheet has cells involved in the trace.



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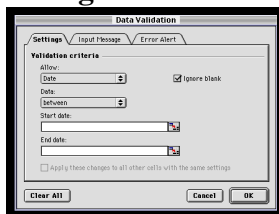
Error Checking Another way to check for errors is to use the Error Checking tool.

Click on the **Formulas** tab and then click on the **Error Checking** button in the Formula Auditing group. Once the Error Checking button is clicked the Error Checking window will open indicating where the error is and you will be given some information about the error.



VALIDATING USER INPUT If you create worksheets that others will use to enter data, you can define rules for the data that is to be entered. If invalid data is entered, you can have automatic pop-up reminders and messages display.

Setting Validation Rules



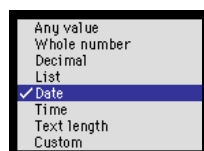
To set rules, you must first access the Data Validation dialog box. You do this by selecting the cells in the worksheet that are going to be subject to the rules. Once the cells are selected, click on the **Data** tab and then click on the **Data Validation** button in the **Data Tools** group.

The Data Validation window will open with three tabs.

The Settings Tab

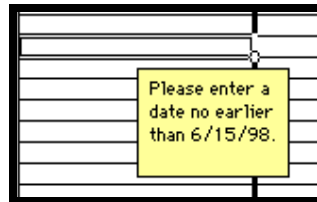
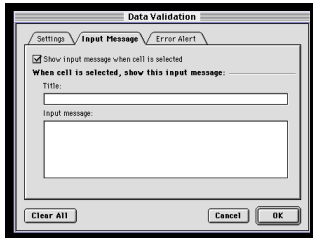
In the Settings tab, you set the actual rule for the selected cells. You first choose a type of data that can be entered in the Allow text box, and then you complete the remaining fields on the Settings tab to set the rules for that data type.

A variety of types of data can be selected, as seen below:



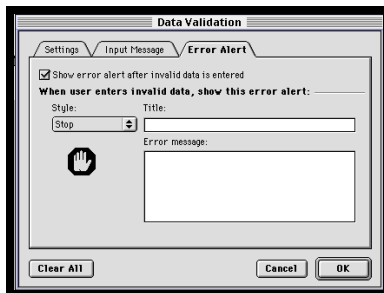
The remaining fields change based on the data type you choose in the Allow text box.

The Input Message Tab With this tab, you can create input messages that remind the people using the worksheet of what data is required. When a cell is selected that has an input message defined, a comment appears with the information you type in the dialog box. An example message follows:



The Error Alert Tab Use this tab to set an error alert for those times when data entered into the cell violates the established rules.

Three types of error alerts can be defined:



Information – When displayed, the user can simply acknowledge and continue, leaving the invalid data intact.

Warning – When displayed, the user must acknowledge that they want to leave the invalid data intact.

Stop – When displayed, the user must correct or reverse the entry.

LINKING TO MS WORD You can take information from an Excel worksheet and place that information into a Word document. This information can be embedded in the Word document or linked to the Word document.

Embedded vs. Linked Information

If you **embed** Excel information into a Word document, a duplicate of the Excel information is actually added to the Word document. This can dramatically increase the size of the Word file.

In addition, if the information in the Excel document is changed, that change will not be reflected in the Word document.

If you **link** Excel information to a Word document, a pointer is stored in the Word document. This pointer references the actual information that is in the Excel document. This method does not dramatically change the size of the Word document.

With a link, when the information in Excel is changed, the information displayed in the Word document will change to reflect the current Excel document.

Embedding Information

To embed Excel information into a Word document:

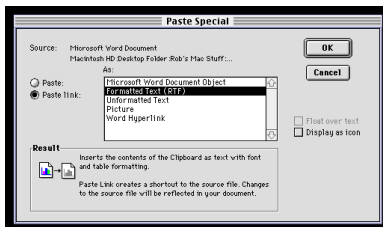
1. Select the desired cells in Excel.
2. Click on the **Home** tab and click on **Copy** in the Clipboard group.
3. Open the Word document and place the cursor at the location where you want the Excel information inserted.
4. Click on the **Home** tab and click on **Paste** in the Clipboard group.

The information is now embedded in the Word document.

Linking Information

To link Excel information to a Word document:

1. Select the desired cells in Excel.
2. Click on the **Home** tab and click on **Copy** in the Clipboard group.
3. Open the Word document and place the cursor at the location where you want the Excel information inserted.
4. Click on the **Home** tab and click on the arrow under **Paste** and then click on the Paste Special option in the Clipboard group.
5. In the Paste Special dialog box click on the **Paste Link** button.
6. Select the **Formatted Text (RTF)** option
7. Click on **OK** and the information will be linked to the Word document.



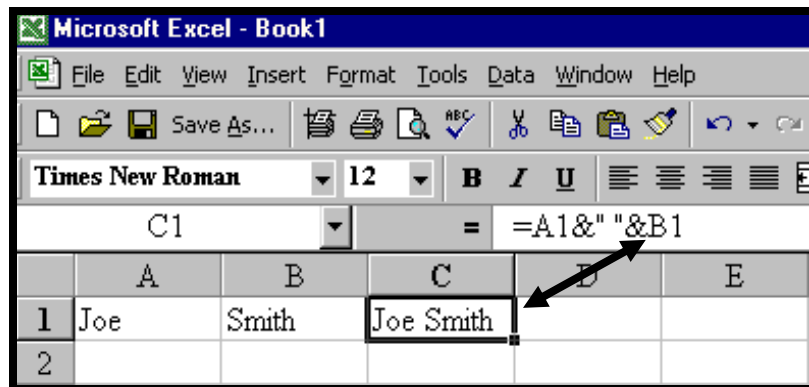
CONCATENATION You can join the values in two or more cells into a single cell. For instance, if you have a person's first name in one cell and their last name in a second cell, you can concatenate the cells which will result in the full name being displayed in a single cell.

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Join Multiple Cell Values into a Single Cell To join multiple values into a single cell:

1. Enter the “=” sign to indicate a formula is being created.
2. Enter the **address** of the first cell.
3. Enter an **ampersand** character (&).
4. You can insert a space between the two cell values by typing **two quote marks with a space between them**. (“ ”)
5. Enter a second **ampersand** character (&).
6. Enter the **address** of the second cell.
7. Press the <Enter> key to complete the formula.

NOTE: You can concatenate more than two cells by continuing to enter the cell names, separated by ampersand characters.



TEXT TO COLUMNS You can take text in a single cell and break it out into multiple cells. For instance, if you have a person’s name in a single cell (Firstname, Lastname) and you want to sort by Lastname, you can breakup the name into separate cells and then you can sort by Lastname.

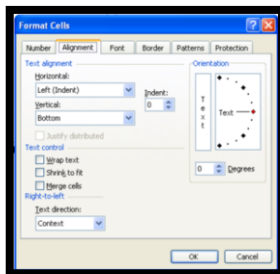
To split single values into multiple cells:

NOTE: You must have enough empty cells to the right of the original cell to hold the data once it has been split.

1. Select the cell with the multiple values.

2. Click on the **Data** tab and then click on **Text to Columns** button in the Data Tools group.
3. A wizard will start. The data will either be delimited (characters such as commas or tabs separate each value) or fixed width (fields are aligned in columns with spaces between each field). Select the appropriate option. Click on **Next**.
4. If **delimited**, check the box that contains the appropriate delimiter. If **fixed width**, insert, delete or move the vertical line so that the window shows the breaks as you desire them. Click on **Next**.
5. Click **Finish** and the data will be spread into the appropriate number of columns to the right of the original column.

HEADER ALIGNMENT You can change the orientation of header fields as follows:



1. Select the **cells** that will contain the altered orientation of text.
2. Click on the **Home** tab and then click on **Format** button in the Cells group.
3. Select **Format Cells**.
4. Use the Orientation Spinner tool to change the orientation of the selected text.

ENTER NUMBER AS TEXT To enter a number and have it recognized as a text entry precede the number with an apostrophe (').

CUSTOM NUMBER FORMAT If you need to create a series of number that all have the same number of digits:

1. Select the **cells** containing the numbers you want to format.
2. Click on the **Home** tab and then click on **Format** button in the Cells group.
3. Select **Format Cells**.
4. Choose **Custom** from the Category window.

5. In the Type window replace the word “Custom” with **zeros**. The number of zeroes you enter will determine the length of the numbers.
6. Click **OK**.

TRANSPOSE DATA If you want to change data that is in rows to data that is in columns (or data in columns to data in rows):

1. Select the data you want to reconfigure.
2. Copy the data.
3. Click in a blank cell where you want the data to reside.
4. Click on the Home tab, then click on the drop down arrow on the Paste button in the Clipboard group and choose **Transpose**.

BULK ENTRY If you want to enter the same data in a variety of cells:

NOTE: This process works well for a relatively small range of cells.
See *Fill Handle Tricks* if you have a large range of cells.

1. Select the **cells** to contain the data. If the cells are not contiguous, hold down the Ctrl key after selecting the first cell, then select the remaining cells.
2. Type the text or number or formula you want to appear in each of the selected cells.
3. Hold down the **Ctrl key** and press the **<Enter> key**.

MOVING & DELETING CELLS Generally, when you move data in cells to another location you have to return to the original location and delete the vacated cells. Here’s how to move cells and delete the vacated cells at the same time.

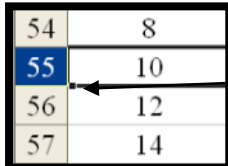
1. Select the **cells** you want to move.
2. Hover over the border of the selected cells until your cursor turns into a 4 headed arrow.

3. Hold down the **Shift key** and drag the data to the new location

The vacated cells will be deleted.

INSERTING ROWS & COLUMNS

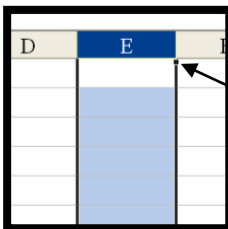
You can quickly insert rows as follows:



54	8
55	10
56	12
57	14

1. Select the **row** above where you want the new rows to display.
2. Hover over the Fill Handle for the row
3. Hold down the **Shift key** and the cursor will change to two horizontal bars.
4. **Drag** down the number of rows you want to insert.

You can also quickly insert columns as follows:



D	E	F

1. Select the **column to the left** of where you want the new columns to display.
2. Hover over the Fill Handle for the column
3. Hold down the **Shift key** and the cursor will change to two horizontal bars.
4. **Drag** to the right the number of columns you want to insert.

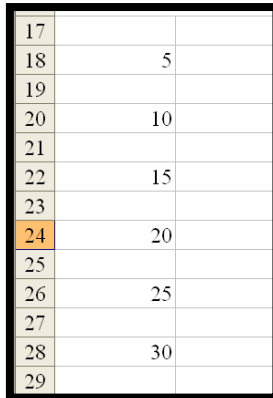
FILL HANDLE TRICKS The fill handle is a very powerful tool that can save you a lot of time entering data.

Creating Incremental Values

If you want to create a list of sequential numbers starting with “1”, enter “1” in a cell. Hold down the Ctrl key and drag the Fill Handle until you have created the desired number of sequentially numbered cells.

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Creating Values With Blank Cells



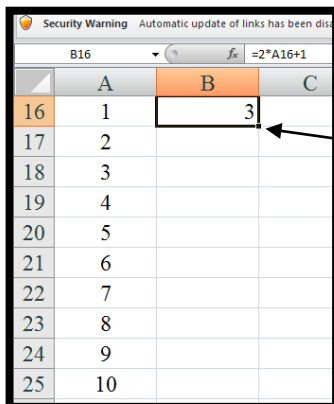
17	
18	5
19	
20	10
21	
22	15
23	
24	20
25	
26	25
27	
28	30
29	

If you want to create a list of numbers with a blank row between each numbered cell:

1. Enter the starting number in the first cell (for instance “5”).
2. Leave the second (next) cell blank.
3. In the third cell enter the next desired number in the sequence (for instance “10”).
4. Select the first, second, third and fourth cells (the fourth cell is a blank cell), drag the fill handle until you have created the desired number of sequentially numbered cells.

Filling Large Ranges

If you have a column of numbers (Column A) and if you create a formula ($=2*A16+1$) in the adjacent column (Column B) you can use the fill handle to quickly obtain totals for the remaining cells in Column B.



	A	B	C
16	1	3	
17	2		
18	3		
19	4		
20	5		
21	6		
22	7		
23	8		
24	9		
25	10		

To do this:

1. Enter the formula in one cell (Cell B1).
2. Double click on the **Fill Handle** (Cell B1).

Excel will solve the formulas in the column (Column B) as long as there are values in the column on the left (Column A). Once it detects a blank cell in the column (Column A), Excel will stop solving the formulas.

DROP DOWN BOX

To eliminate re-typing entries into columns in which you’ve previously typed an entry:

1. Select a **blank cell** in the column.
2. Press **ALT+down arrow**. A list of all previously typed entries appears.
3. Release ALT, and use the **up arrow** or **down arrow key** to select the entry you want to apply to that cell.
4. Press **<ENTER>**.

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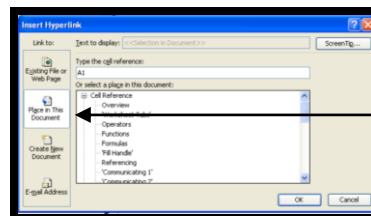
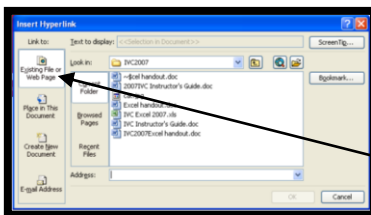
HYPERLINKS

Hyperlinks can be attached to text in cells, images, clip art, text boxes, just about any object in the worksheet.

You can create a hyperlink to an existing file or web page, to a location within the same document or to an email address.

To create a hyperlink to an existing file or web page:

1. Select the object or cell that you want to attach the hyperlink to.
2. Click on the **Insert** tab then click on the **Hyperlinks** button in the Links group.
3. Click the **applicable button** in the Link To window.
4. To hyperlink to an existing file, click in the **Look In** window and navigate to the applicable file.
5. To hyperlink to a web page, **enter the full URL** of the website in the Address window.
6. To provide a custom Screen Tip when an individual hovers their mouse over the hyperlinked item, click on the **Screen Tip button** and type the tip.

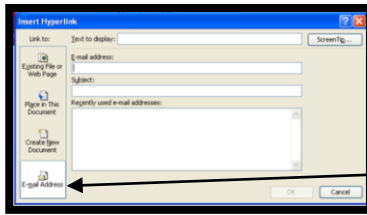


To create a hyperlink to an existing place in this document:

1. Select the **object** or **cell** that you want to attach the hyperlink to.
2. From the Menu Bar click on **Insert** and then choose **Hyperlink**
3. Click the **applicable button** in the Link To window.
4. To hyperlink to a cell or range of cells indicate the cell or range of cells in the cell reference window.
5. To hyperlink to a worksheet in the workbook, choose the desired worksheet from the window.
6. To provide a custom Screen Tip when an individual hovers their mouse over the hyperlinked item, click on the **Screen Tip button** and type the tip.

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To create a hyperlink to an e-mail address:



1. Select the **object** or **cell** that you want to attach the hyperlink to.
2. From the Menu Bar click on **Insert** and then choose **Hyperlink**
3. Click the **applicable button** in the Link To window.
4. Enter the desired e-mail address
5. Enter the Subject.
6. To provide a custom Screen Tip when an individual hovers their mouse over the hyperlinked item, click on the **Screen Tip button** and type the tip.