Basics of Spreadsheets

Microsoft Excel 2010

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Workshop Outline for Basics of Creating Spreadsheets
Microsoft Excel

Microsoft Excel is a spreadsheet program that allows you to organize your data into lists and then summarize, compare and present your data graphically. Excel helps you find the sum, average, or maximum value for sales on a given day; create a graph showing what percentage of sales were in a particular range; and show the total sales compared with the total sales of other days in the same week.

Basics of Creating Spreadsheets

Learn the basics, from creating and saving to editing and formatting. Learn how to create easy-to-understand charts. Learn how to manage critical business data how to get the most out of your information.

Objectives:

- Get started with Excel.
- Navigate anExcel document.
- Create a Workbook – Enter text and numbers
- Use AutoSum
- Work with multiple Worksheets

Getting Started – Launching Microsoft Excel

Start the Excel program. The most common way to start in Windows 7 is to click on the Windows button and type Excel into the search bar.

Microsoft® Excel – Basics of Spreadsheets
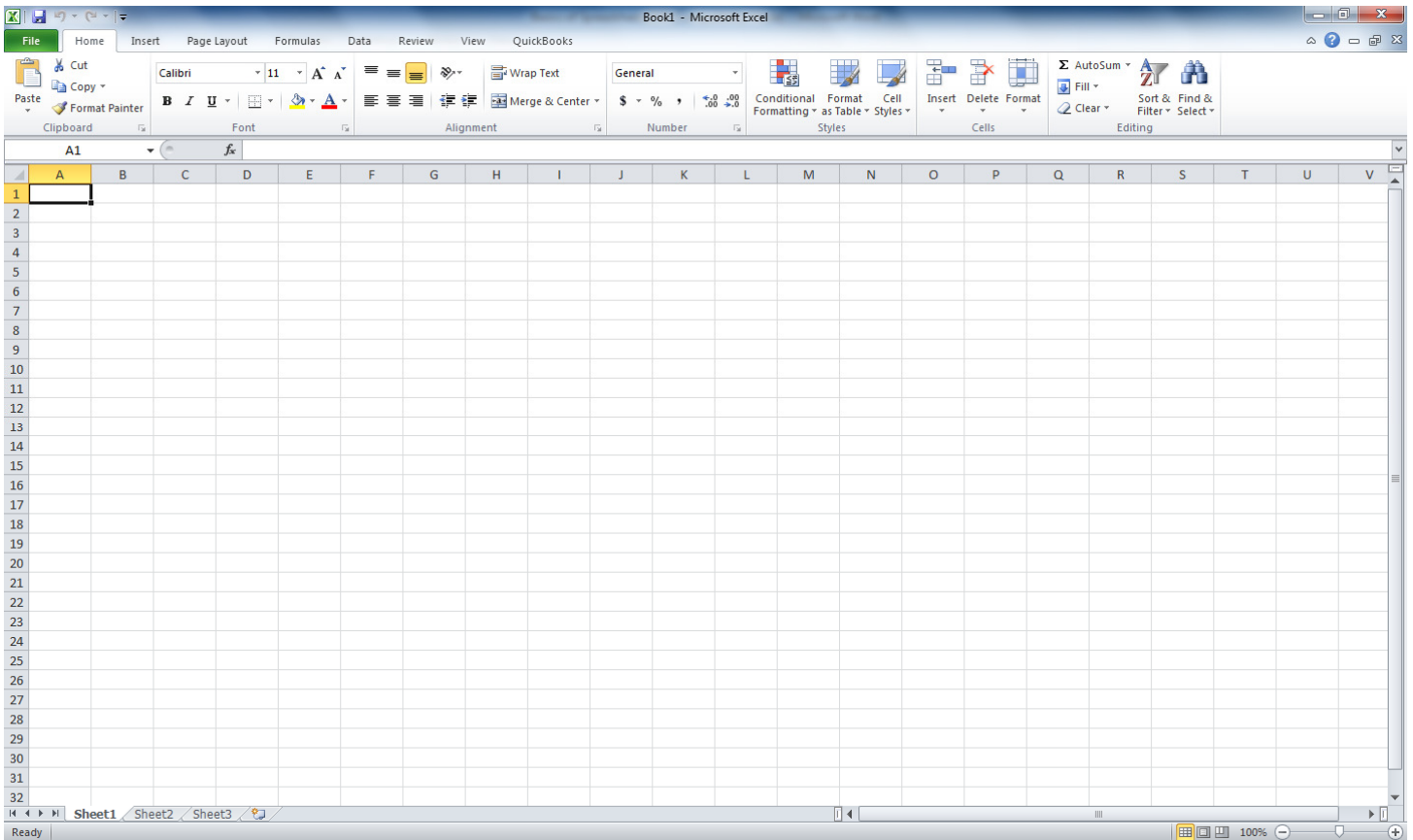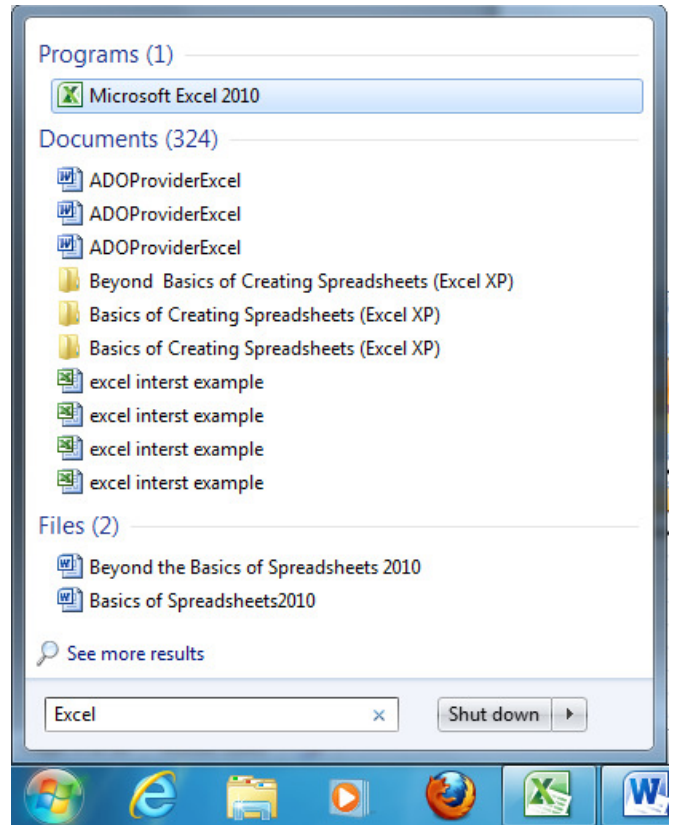
Overview of Microsoft Excel Menus and Toolbars

- Ask A Question Button (**TYPE,** *How do I use help?*)
- Title Bar - title of your active document
- Menu Bar
- Scroll Bars
- Status Bar
- Workbook/Active Worksheet
- Minimize/Maximize/Close Button
- Formula bar
- Cell, Row and Column

Ribbon

Quick Access Toolbar

Ask A Question Button

Minimize/Maximize/Close Buttons

Title Bar

File Button

Formula bar

Workbook Window

Scroll Bars

Worksheet navigation

Status Bar

Zoom
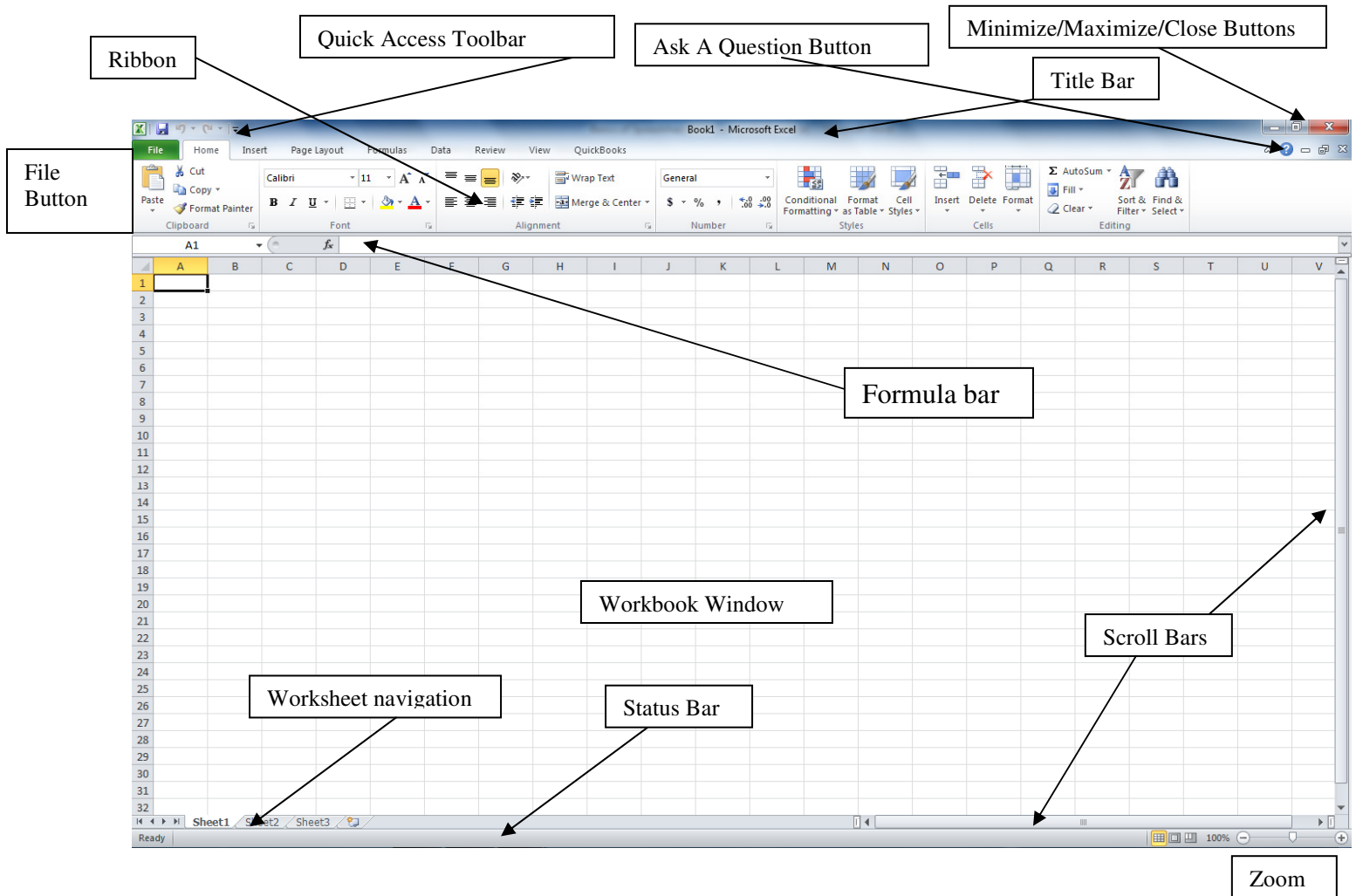
Customize Toolbar/Commands and Options
To locate right click on the toolbar and select Customize Quick Access Toolbar…

> **Commands tab** allows adding and removing items from the Quick Access Toolbar.
> - In the list of options SELECT **Set Print Area in the commands list, and** ADD **to Toolbar by clicking Add>>**.
>
> **Options tab**
> - The **Advanced** Section has most of the previous commands that were found in the older Option Menus.
> - The **Popular** Section has the ability to change the color and the ability to change the user name.
> - The **Proofing** Section holds the location from the AutoCorrect options.
>
> **Customize Ribbon**
> - New in 2010 – we are now able to change the ribbon itself by adding or removing tabs or items
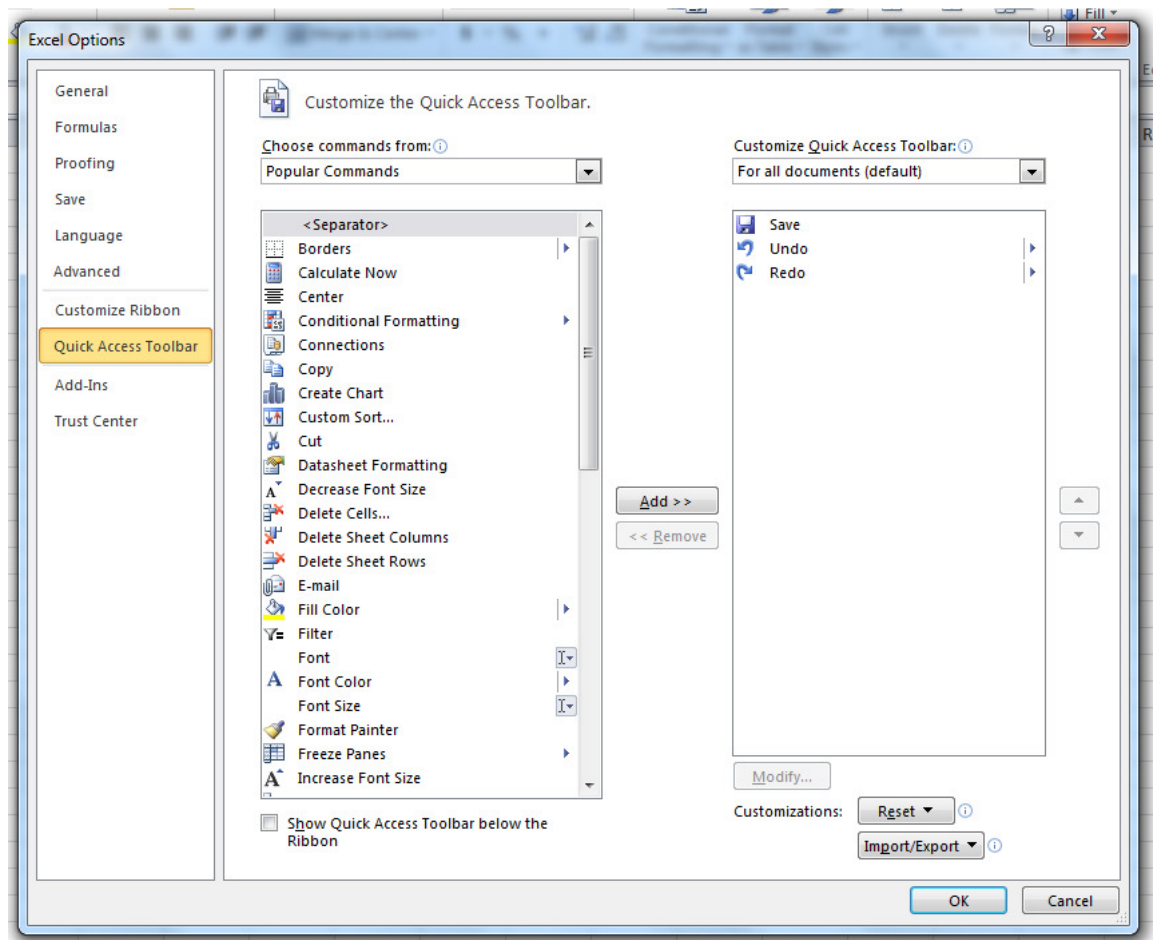
🔸 Things to remember:

- **Insertion Point** - The blinking, short, vertical line, it indicates where your next typing (or backspacing) will begin.
- **I-beam** -The cursor shape (I) that controls the movement or placement of the Insertion Point controlled by the mouse.
- **Point** -Move the pointer on a display screen to select an item.
- **Click** -To tap on a mouse button, pressing it down and then immediately releasing it (one press-and-release of the mouse). Note that *clicking* a mouse button is different from *pressing* (or dragging) a mouse button, which implies that you hold the button down without releasing it. The phrase to *click on,* means to select (a screen object) by moving the mouse pointer to the object's position and clicking a mouse button.
- **Double-click** - Tapping the mouse button twice in rapid succession. Note that the second click must immediately follow the first, without moving the mouse, otherwise the program will interpret them as two separate clicks rather than one Double-Click. (generally used to open an icon or select a single word)
- **Drag** - Refers to any operation in which the mouse button is held down while the mouse is moved.
- **Right click** - access different shortcut menus, menus vary depending on where you are clicking.
- **Left click** - select button.
- **Select / Deselect** - highlighted or non-highlighted text.

Navigating through Excel

Soon after you install Office 2003 on your computer, a balloon pops up asking if you would like to "Help Make Office Better." If you click on it, you are given the opportunity to enroll in something called the Microsoft Office Customer Experience Improvement Program. If you opt-in, anonymous data about how you use Office are uploaded to Microsoft occasionally in the background. All of this data went back to the developers in Redmond on how you use your computer. This is what they found:

Top 5 Most-Used Commands in Microsoft Word 2003

1. **Paste**
2. **Save**
3. **Copy**
4. **Undo**
5. **Bold**

Together, these five commands account for around 32% of the total command use in Word 2003. Paste itself accounts for more than 11% of all commands used, and has more than twice as much usage as the #2 entry on the list, Save.

With this information, the developers went out and created a new interface for Office 2007. This interface was then refined for Office 2010.

The new Microsoft Office Fluent user interface primarily consists of nine key components:

1. The Ribbon - consists of tabs displaying the commands that are most relevant for each of the task areas in each application. This is a combination of the menu and toolbars.

2. Contextual Tabs - whenever a user selects or inserts an object, the Contextual Tabs for modifying that object (such as pictures, tables, text boxes and charts) appear in the Ribbon.
3. The Office Button - replaces the File menu.
4. Galleries - provide users with a visual set of formatting options to choose from when working on a document, spreadsheet, presentation or Access database.
5. Live Preview - shows the potential results of a Gallery selection within the document before it is actually applied.
6. Mini Toolbar - provides easy and efficient access to the most frequently used text-formatting commands.
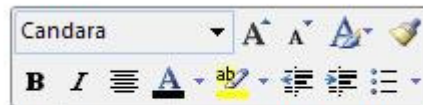
b, the galleries include items that are c
your document. You can use these gall
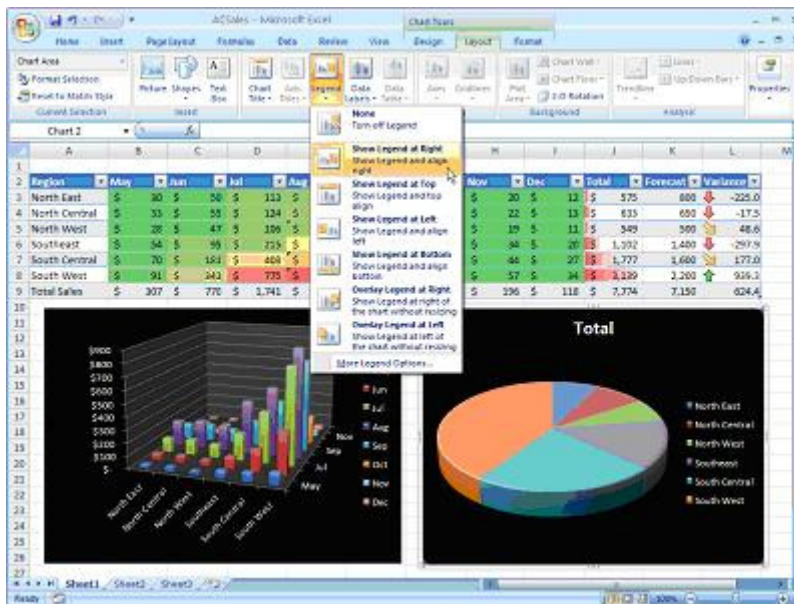
Gallery (Item #4)

7. Enhanced ScreenTips - appears as users move the mouse pointer over items in the Ribbon, showing the name of the feature, the keyboard shortcut and a brief description of what the feature is used for, and help links.

8. Quick Access Toolbar - provides a single location for people to place the commands and features they use most frequently.

9. KeyTips - appear in front of the Ribbon tabs with a single letter or combination of letters for users to type to activate the feature when users press the Alt key.
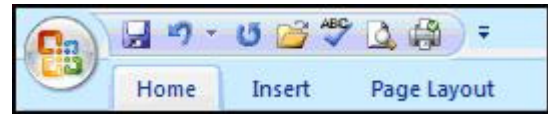
- Time saving tip:
    - Right Mouse Button allows users to access menu items easier and faster.
    - Use Keyboard Shortcuts. (hold Ctrl key down and press the "assigned" key)
    - Use Toolbars instead of Menu items.
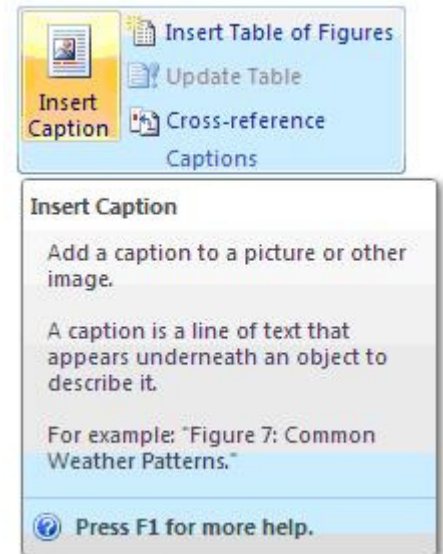
Understanding and Moving around in Excel

Exercise One:

Enter in the information as below

Name	Payrate	Hours	Gross Pay
Fredrickson	9.5	38	
Jones	9	39	
Monroe	10.25	37	
Peterson	9	40	
Smith	11.25	40	

Workbooks are saved as files

Worksheets is a page within the workbook
- Sheets can be inserted (Insert>Worksheet)
- Sheets can be renamed (Double click on sheet name and type in new name)
- Worksheet Components

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Moving Around in Excel
- Ctrl+Home – Top of worksheet (cell A1)
- Ctrl+End – End of worksheet
- Home – Beginning of row (column A in current row)
- Arrow keys – moves one line/space at a time in various directions
- Page up – Moves up one screen at a time
- Page down – Moves down one screen at a time
- Scroll bars – Moves up/down/right/left in a document

Entering Text and Numbers
- Numbers (press enter key, tab, arrow, or click elsewhere when done)
- Text (press enter key, tab, arrow, or click elsewhere when done)

Revising Text and Numbers
- Type over the information in the cell
- Click on the cell and edit using the formula bar
- Double-click in the cell and edit directly
- Clear contents using Delete key

Selecting Multiple (Range) Cells
Using cell pointer, hold the mouse button down and drag until the desired cells are selected.

Working with Numbers

Creating Formulas

Operation	Symbol
Start Formula	=
Addition	+
Subtraction	-
Multiplication	*
Division	/
Precedence	Enclose in ( )
Equal to	=
Not equal to	<>
Greater than	>
Less than	<

1. Activate cell you want formula in
2. Type an equal sign (=) Formulas begins with "="
3. Click the first cell you want in the formula
4. Type a operator

5. Click the next cell in the formula
6. Repeat steps 4 and 5 until formula is done
7. Finish entry by pressing Enter

Entering Simple Formulas

1) Using one operator:
   Select a cell and Type =8+4, Click on the Checkmark on the formula
   bar or hit the Enter Key the result is 12

2) Using two operators:
   Select a cell and Type =4+2*3, hit Enter, the result is 10

3) Key factor: Order of Operator Precedence - multiple and division within a
   formula is completed prior to adding and subtracting in a formula, unless
   you use parentheses to override the Precedence.
   Select a cell and Type =(4+2)*3, hit Enter, the result is 18

AutoSum
Toolbar button "Σ" enters formula "=sum( )

AutoFill
Using Fill handle to drag formula across or down (pointer turns into a **+** when positioned
over the square box in the lower right-hand corner of the active cell

Formatting Numbers

Use the Toolbar buttons

Currency Style	$
Percentage Style	%
Comma Style	,

Increase and decrease decimals places
Use the Menu Format>Cells for more choices

Formatting Text

- Font
- Point size
- **Bold**, *Italic*, <u>Underline</u>

Adjusting Worksheet Layout

- ♦ Adjusting Column Width and Row Height
  - ▪ Adjust Column Width
    - • Select column you want to adjust (A, B, C, etc.)
    - • Place the mouse pointer to the right edge of the selected column until the pointer changes into a double-headed arrow
    - • Double click to have Excel adjust it to the best fit for that column, or hold the mouse button down and drag to the right or left until desired width is reached
  - ▪ Adjust Row Height
    - • Select row you want to adjust (1, 2, 3 etc.)
    - • Place the mouse pointer to the lower edge of the selected row until the pointer changes into a double-headed arrow
    - • Double click to have Excel adjust it to the best fit for that row, or hold the mouse button down and drag up or down until desired height is reached
- ♦ Inserting and Deleting Rows and Columns
  - ▪ Insert Row or Column
    - • Right-mouse button click on Column or Row heading you want to move to the right or down, right-click and select Insert (select multiple columns or rows prior to this if you want to insert more at one time)
  - ▪ Delete Row or Column
    - • Right-mouse button click on the Column or Row heading you want to delete and choose Delete from the menu
- ♦ Since the Employees are in alphabetical order, insert Peart at $11 and 40 hours above Peterson. Notice that the formatting is the same for the columns, but that you have to autofill the formulas that were put in to calculate gross pay.
- ♦ Inserting and Deleting Cells
- ♦ Moving and Copying Cell Contents
  - ▪ Using Copy and Paste commands
    - • Select range of cells and choose copy and then put insertion point in new spot and choose paste to duplicate
    - • Select range of cells and choose cut and then put insertion point in new spot and choose paste to move
  - ▪ Using Drag and Drop function
    - • Select range of cells, move mouse to lower edge of range, when arrow appears, hold mouse down and drag and drop to new location to move
    - • Select range of cells, move mouse to lower edge of range, when arrow appears, hold Ctrl key down and mouse down and drag and drop to new location to copy

Aligning Text

- Rotating Text
- Format > Cells > Alignment tab
- Or Select cells and right-click over selection
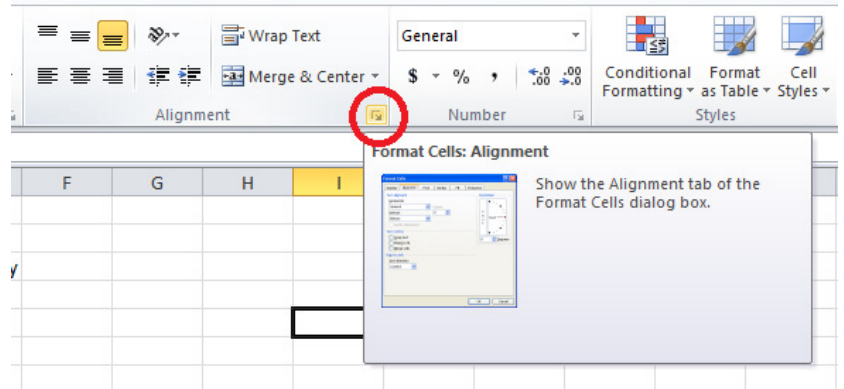
- Merge, Shrink to Fit, and Wrap Text
- Also listed under Format > Cells > Alignment tab
- Merge and Center
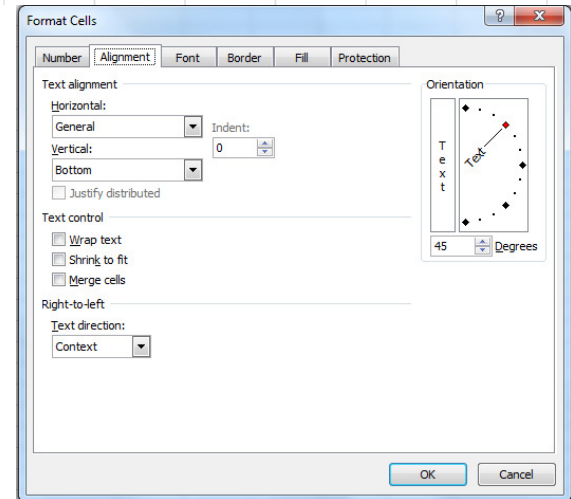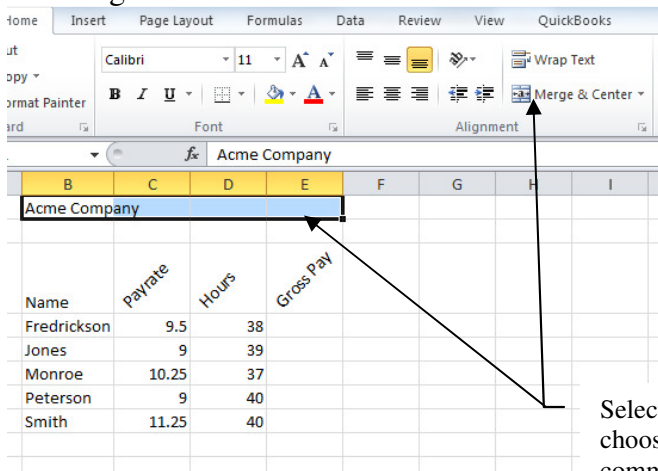
Select range of cells and choose "Merge and Center" command from the Ribbon

Borders and Color/Shading
- Borders
- Select range
- Right click and select **Format Cells…**Select the **Border** tab on the Format Cells Screen
- Colors/Shading
- Select range you want to color or shade
- Right click and Use the **mini toolbar**and select the fill button and select the color to shade the cells.

Previewing and Printing

- ♦ Viewing using freeze panes
  - ▪ Click in the cell where all rows above that cell and all columns to the left of the cell, should stay in place
  - ▪ Choose Freeze the View Tab and under the Window Options, select Freeze Panes.
- ♦ Adjusting Margins in Print Preview
  - ▪ Drag margins into place

Changing Page Setup

- ♦ Portrait vs. Landscape
- ♦ Fit 1 page by 1 page
- ♦ Changing Sheet Settings
  - ▪ Print area
    - • Select range if other than all
  - ▪ Print Titles
    - • Place insertion point in Rows to Repeat at Top and then drag through rows you want to appear on successive pages
    - • Place insertion point in Columns to Repeat at Left and then drag through columns you want to appear on successive pages

Creating Easy-to-Understand Charts

- ◆ Understanding Chart Types
    - ▪ Column Charts
        - • Compares values across categories
    - ▪ Pie Charts
        - • Displays the contribution of each value to a total
    - ▪ Line Charts
        - • Displays trends over time or categories
- ◆ Creating a Chart
    - ▪ Using the Chart Wizard
        - • Select range to include text and numbers
        - • Select the **Insert** tab, and then the type of chart from the menu.
        - • Move through 4 steps until finished
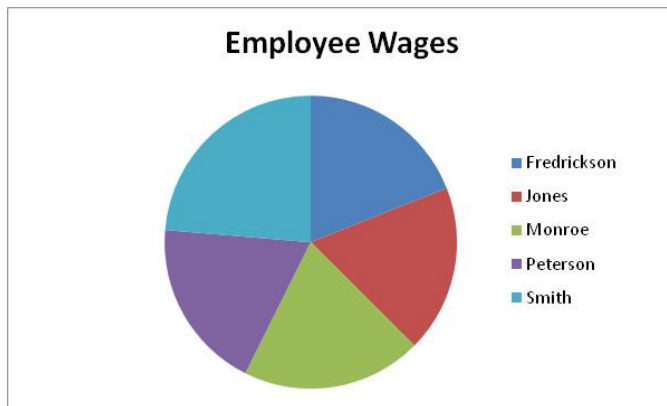
Other Options with Excel

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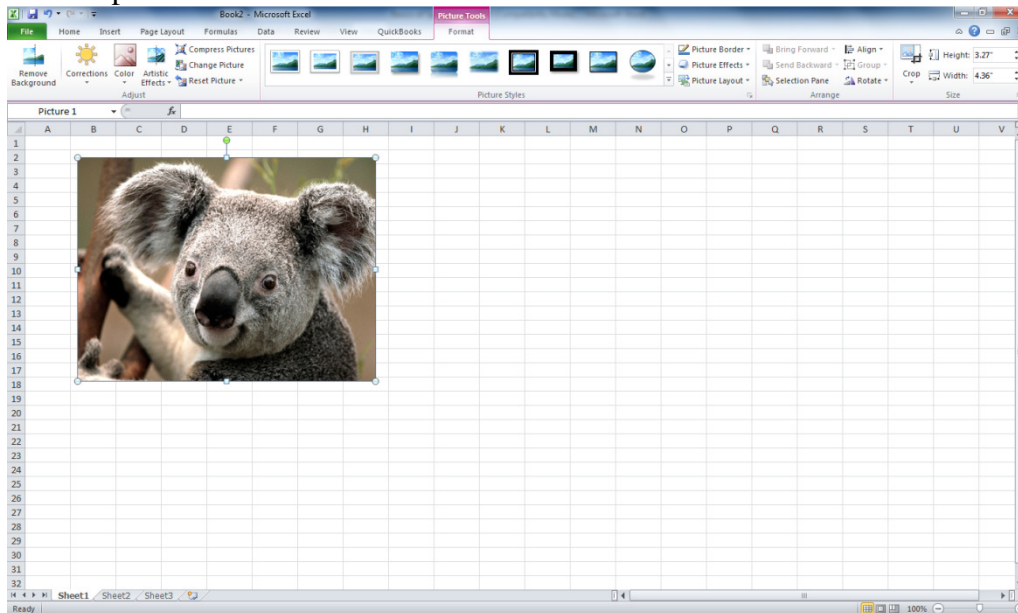
Exercise Two:

1. If not already open, **OPEN**a new Excel Workbook
2. To add a worksheet title, **CLICK**on cell **B2**, and**TYPE***2010 Cash Flow Summary*, then**PRESSEnter**
3. To add labels for the columns of data, **PRESS**the down arrow key, then **TYPE***Quarter*(this should be in cell **B4**) and **PRESSEnter.**
4. To enter labels for rows, **CLICK**cell **B5** and **TYPEQ**. Note: Excel gives you the option of completing the cell using the option of completing the cell using the same text as the entry above. **TYPE1**, then **PRESS Enter**.
5. Finish entering label rows. Currently, the selected cell should be **B6**. **TYPEQ2**. Using the mouse cursor, **Point**to the fill handle on the bottom right corner of the selected cell. Note: the point becomes a cross.   While holding down the left mouse button **DRAG**the fill handle to cell **B8**. Note: Excel automatically fills in and increments the values in cells B7 and B8.
6. Using the mouse, select cell **C4**. **TYPE***France*,**PRESSRight Arrow key**, **TYPE***Germany*, **PRESSRight Arrow key**, **TYPE***Spain*, **PRESSEnter**.
7. To begin entering numeric values into the worksheet, **CLICK**cell**C5,TYPE55000**(no commas needed!), **PRESS**enter. Note: numbers right align by default. **CLICK**cell **C6**, **TYPE175000**, **PRESS**enter.
8. Complete the table inserting numbers as below.

2010 Cash Flow Summary

Quarter	France	Germany	Spain
Q1	55000	300000	45000
Q2	175000	275000	25000
Q3	25000	125000	75000
Q4	145000	0	155000

9. **CLICK**in cell**F4**, **TYPE**Total, and **PRESS Enter**. To use the **AutoSum** feature to sum the first row of data, **CLICK**the **AutoSum** button on the Ribbon.**PRESSEnter**.

Σ AutoSum ▾

10. **CLICK**in cell **F4**again. Using the AutoFill handle in the lower right hand side of the selection, **DRAG** the cursor down to **F9.**Then **CLICK**in cell **F9**.
11. To get the totals for each country, **CLICK**in cell**C9.** Use the **AutoSum** feature to sum the first column of data in **C9**. **PRESS Enter**place the function in that cell**.**
12. **CLICK**in cell**C9** again. Using the AutoFill handle in the lower right hand side of the selection, **DRAG** the cursor down to **F9.** Then **CLICK**in cell **F9**.
13. Format all of the numbers as currency by selecting cells C5 through F9. **CLICK**in cell**C5.** While holding the left mouse button**, DRAG**the cursor until cell **F9** is reached**.** All of the cells minus cell C5 should have a blue tint**.**
14. Name the sheet by**DOUBLE-CLICKING** on the Tab that shows Sheet 1. **TYPE 2010 CASH FLOW** and press **ENTER.**

15. To copy the contents of 2010 Cash Flow to Sheet2, **DRAG**the **pointer** down from cell **B2 to F10**on 2010 Cash Flow. **RIGHT-CLICK**the selected cells and **CLICK Copy**. **CLICK**the **sheet2 tab**. To paste the clipboard contents into sheet 2, **CLICKB2**, **PRESSEnter**.

16. To change the worksheet title text, **DOUBLE-CLICK**"*2010*" in the Formula Bar, **TYPE2011**, **PRESSEnter**.

17. Name this sheet by**DOUBLE-CLICKING** on the Tab that shows Sheet 2. **TYPE 2011 CASH FLOW** and press **ENTER.**

18. Follow steps 15 through 17 and copy Sheet 2011 Cash Flow to Sheet 3 and rename it **2012 CASH FLOW.**

19. To add a fourth worksheet, **CLICK**on the tab with the Starburst to the far right of all the tabs.

20. To rename the new worksheet, **DOUBLE-CLICK**the **Sheet4 tab**, **TYPE***Three Year Totals*, **PRESSEnter**.

21. **SAVEfile**.

Completed Exercise:

2012 Cash Flow Summary

| Quarter	France	Germany	Spain	Total
Q1	$ 55,000.00	$ 300,000.00	$ 45,000.00	$ 400,000.00
Q2	$ 175,000.00	$ 275,000.00	$ 25,000.00	$ 475,000.00
Q3	$ 25,000.00	$ 125,000.00	$ 75,000.00	$ 225,000.00
Q4	$ 145,000.00	$ -	$ 155,000.00	$ 300,000.00
	$ 400,000.00	$ 700,000.00	$ 300,000.00	$ 1,400,000.00

Time Saving Tips:

Keyboard Navigation

+ There are many times when your worksheet fills more than a single window and it doesn't take long before you want to find ways to move about the worksheet more quickly. The table below will provide you with some quick ways to travel through out your worksheet.

To Go Here	Press this key combination	Notes
Active cell	Ctrl + Backspace	Use this shortcut if the active cell has scrolled off the screen.
Next unlocked cell	Tab	
Previous unlocked cell	Shift + Tab	
Beginning of current row	Home	
Last column containing any filled cells in the current row	End, then Enter	
Beginning of the worksheet	Ctrl + Home	
Last worksheet cell	Ctrl + End	Cell at intersection of last row and column used.
Up or down one screen	Page Up or Page Down	
Left or right one screen	Alt + Page Up or Alt + Page Down	
Next or previous worksheet	Ctrl + Page Up or Ctrl + Page Down	

Navigating to other worksheets

+ When you have more worksheets within your workbook that show without scrolling, you can right-click on the scrolling buttons to the left of the worksheet tabs and choose the destination sheet from the short cut menu. You will be able to see up to 15 sheets at one time

+ You can rename the sheets by doubling-clicking on the sheet tab name and then retyping in a new name. An alternative is to right-click on the sheet tab and select Rename from the shortcut menu.
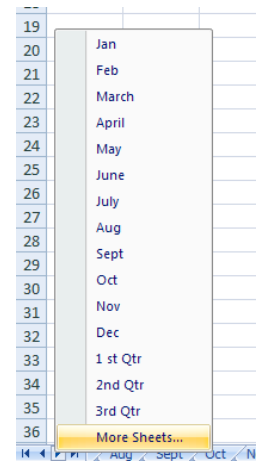
Shift-Click Trick

+ Do you get frustrated when you are trying to select a range that exceeds the width or height of your screen (you end up scrolling over or down sometimes hundreds of rows or many columns before you can stop)? Try this trick next time. First, click in the top corner of the range you want to select. Next, using the scroll bars only, scroll down until you see the bottom of the range of the cells you want to select. Holding down the Shift key, click in the opposite corner from the cell you first selected. If the range isn't exactly right, keep the Shift down while you re-click.

Making Multiple Selections

+ It is sometimes necessary to create a pie chart, for example, using information in cells that are not adjacent to each other as the figure below indicates. To select nonadjacent ranges, or cells, simple select the first cell or range you want in the normal fashion, then hold down the Ctrl key as you select the next cell or range, repeating until all required cells or ranges have been selected.

	Revenue Radio/TV	Date			
	Client Rep		Qtr1	Qtr2	Grand Total
5	Dale		$19,315.92	$6,241.36	$25,557.28
6	Rita		$14,480.28	$3,865.86	$18,346.14
7	Steven		$6,346.58	$6,225.15	$12,571.73
8	Grand Total		$40,142.78	$16,332.37	$56,475.15

Revenue by Rep

22%

45%

33%

Dale   Rita   Steven

In addition to using this method when you need to create a pie chart, you can also use it to select cells or ranges that aren't next to each other and apply formatting to them.
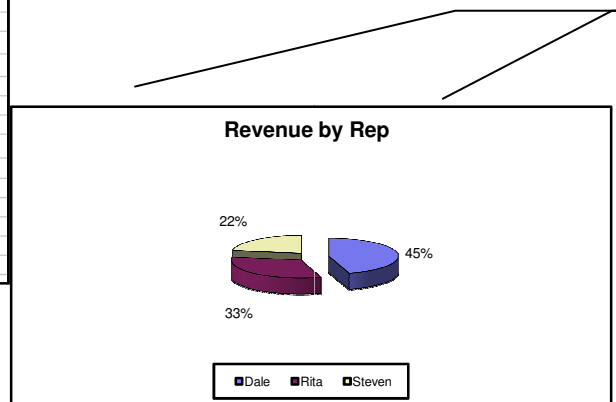
Summing Up a Few Numbers

- You can quickly sum up a few numbers (a range or using the method above to select nonadjacent cells) by selecting them and looking for the "Sum" line on the status bar.
- If you right-click any of those words, you can select other options.
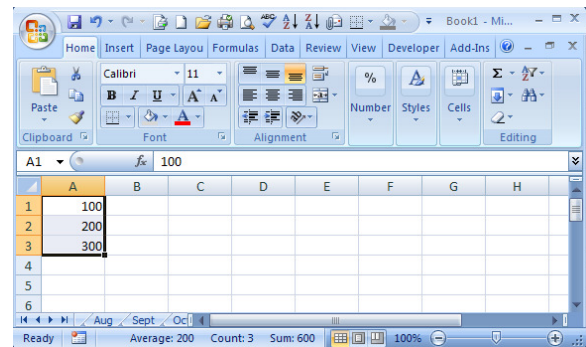
Getting what you type

- If you want to type in 1/2 in a cell, you will find that Excel thinks you want the date, January 2nd. That is because the dash, "/", is used to format for the date.
- Type in a 0 (zero) first followed by a space. This will display a 1/2, and the cell will display a .5 in the formula bar.

Adding a carriage return

- To enter a hard carriage return in a cell, press the Alt+Enter where you want the line to break. This will turn on the Wrap Text Format and will automatically adjust the row height so the text will fit. You can find the Wrap Text Format under the Format Menu, on the Alignment Tab of the Cells Command.

Error Messages

When a cell with an error in the formula is the active cell an ERROR button appears next to it. You can click the buttons down arrow to display a menu with options that provide information about the error.

- #### - The column isn't wide enough to display the value.
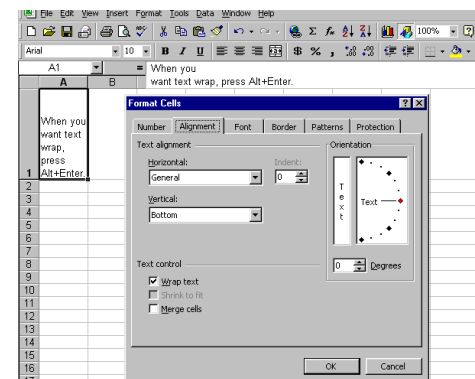
- #VALUE! – The formula has the wrong type of argument. (such as when it is true or false)
- #NAME? – the formula contains text that Excel doesn't recognize. (such as an unknown named range)
- #REF! – The formula refers to a cell that doesn't exist. (which can happen whenever cells are deleted)
- #DIV/0! – The formula attempts to divide by zero.

Excel Shortcuts

Activity	Shortcut Keys
Alternate between displaying cell values and displaying cell formulas	CTRL+` (single left quotation mark)
Calculate all sheets in all open workbooks	F9
Calculate the active worksheet	SHIFT+F9
Copy	CTRL+C
Create a chart that uses the current range	F11 or ALT+F1
Display the **FormatCells** dialog box	CTRL+1
Display the **GoTo** dialog box	F5
Fill the selected cell range with the current entry	CTRL+ENTER
Insert the current time	CTRL+:
Insert today's date	CTRL+;
Move to the beginning of the worksheet	CTRL+HOME
Move to the last cell on the worksheet, which is the cell at the intersection of the rightmost used column and the bottommost used row (in the lower-right corner), or the cell opposite the home cell, which is typically A1	CTRL+END
Open	CTRL+O
Paste	CTRL+V
Paste a function into a formula	SHIFT+F3
Print	CTRL+P
Save	CTRL+S
Select all (when you are not entering or editing a formula)	CTRL+A
Select the current column	CTRL+SPACEBAR
Select the current row	SHIFT+SPACEBAR
Undo	CTRL+Z
When you enter a formula, display the **Formula Palette** after you type a function name	CTRL+A