Introduction to Excel

Office Button, Tabs and Ribbons

Office Button

The File menu selection located in the upper left corner in previous versions of Excel has been replaced with the Office Button in Excel 2007.

Clicking on the Office button will open this box:

Options, which used to be found under the Tools menu, are now located here:

Tabs

The Main Menu consists of Tabs.

Clicking on a Tab opens a Ribbon. Shown below is the Home Ribbon.

Each Ribbon is divided into Groups. The Group highlighted above is the Number Group.

Some Groups have a small arrow in the lower right corner. Clicking on this arrow will open a menu box similar to those found in older versions of Excel.
Quick Access Toolbar and the Mini Toolbar

**QAT**

**To Add Icons:**
- Click on the dropdown arrow to the right of the QAT.
- Right-click on the QAT and select *Customize Quick Access Toolbar*...
- Right-click on any icon on any ribbon and select *Add to Quick Access Toolbar*.

**To Remove Icons:**
- Right-click on any icon on the QAT and select *Remove from Quick Access Toolbar*.
- Right-click on the QAT and select *Customize Quick Access Toolbar*...

**Other Features:**
- Right-click on QAT OR click on the dropdown arrow to the right of the QAT.

**Mini Toolbar**

**To Access the Mini Toolbar:**
- Right-click on any cell

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**Exercise 1**

a. Minimize the ribbon, and then restore it.

b. Right-click on various icons and add them to the QAT.

c. Move the QAT beneath the ribbon:

1. Click on the *Office Button*.
2. Select *Excel Options*.
3. Select *Customize*.
4. Check the box to *Show Quick Access Toolbar Below the Ribbon*.
5. Click *OK*.

d. Move the QAT back to its original position. (Right-click on the QAT.)
Exercise 2

Where would you go to perform the following functions:

<table>
<thead>
<tr>
<th>Function</th>
<th>Ribbon</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert a Chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insert a Date Formula</td>
<td></td>
<td></td>
</tr>
<tr>
<td>View the Spreadsheet in Page Layout View</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sort and Filter the Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insert a Header or Footer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change the Font Size and Color</td>
<td>(     )</td>
<td>(     )</td>
</tr>
<tr>
<td>Print the Spreadsheet</td>
<td>(     )</td>
<td>(     )</td>
</tr>
</tbody>
</table>

A spreadsheet is a number manipulator. To make the handling of numbers easier, all spreadsheets are organized into rows and columns. Your initial spreadsheet will look something like the one below:

Notice that the main part of the spreadsheet is composed of Rows (Labeled 1, 2, 3, 4, etc.) and Columns (Labeled A, B, C, D, etc.). The intersection of each row and column is called a cell. In the image above the cursor is on the home cell – A1. Notice Row 1 and Column A are bold and colored orange. This indicates what is called the address of the cell. Notice right above cell A1, that A1 is displayed in a small box called the Name Box. Whenever you click on a cell, the address of that cell will be shown in the Name Box.

Notice the Formula Bar to the right of the Name Box. The Formula Bar can be used for entering and editing data.
Exploring the Status Bar
Adding a New Worksheet

- Click on the icon to the right of the Sheet3 tab to add a worksheet.
- Right-click on any worksheet tab for more options.

Change the Worksheet View

- Click on one of the icons on the Page Layout toolbar to change the work sheet view. (NOTE: the view can also be changed by going to the View Ribbon.)

Zoom In or Out

- Use the Zoom Slider at the right end of the Status Bar.

Activate the Status Bar Functions

- Right-click on the Status Bar.
- Select 1 or more of the 6 functions from the menu.
- Select any cells containing data.
- The results of the calculations will appear in the Status Bar.

Exercise 3 – Worksheet Status Bar

a. Create a new blank worksheet.

b. Rename the new worksheet TEST1.

c. Test the Zoom feature by zooming in and out.

d. Turn on the Sum function in the Status Bar.

Close the worksheet we have using up to this point. Now click on the Office Button, then click on Open. Navigate to the Desktop where you will find the coursematerials folder. Open this folder and then open the Excel folder and double-click on Exercises.xlsx.
Project One – Using Formatting Options

Follow the instructions to apply various formatting options (all of which are found on the Home ribbon) to the Formatting spreadsheet in the Exercises.xlsx file.

1. Click-and-drag to select cells B1:C1. Next click on the Merge-and-Center icon to merge B1:C1 into one cell.

2. Click-and-drag to select the header cells B5:G5. Center the headers horizontally and vertically, make them bold and increase the font size to 12.

3. Sort the spreadsheet by Division: select cell B6 and use the Sort function to sort in ascending order.

4. Add $ signs: select cells D6:G65. Add the $ sign and remove the decimal places.

5. Adjust the column widths by clicking-and-dragging the column borders in the column letters region.

7. Select cell D66 and use the Summation icon to create a total for the column.

8. Use the Autofill to copy the formula in cell D66 into cells E66:G66.

Verify these totals by using the Status Bar Sum function.

9. Select cells B6:B65 and give them a fill color.
More Editing and Formatting Options

To insert a row: Right-click on the row heading and choose Insert from the menu. Excel will insert a blank row just above the row you are clicking on.

OR
Select a row and use the options in the Cells group on the Home ribbon. (Click on Insert.)

To delete a row: Right-click on the row heading and choose Delete from the menu OR use the Cells group. (Click on Delete.)

To insert a column: Right-click on the column heading and choose Insert from the menu Excel will insert a column to the left of the selected column, OR use the Cells group. (Click on Insert.)

To delete a column: Right-click on the column heading and choose Delete from the menu OR use the Cells group. (Click on Delete.)

To copy cells: Use the fill handle to copy data to adjacent cells

OR use the copy and paste buttons on the Home ribbon

OR right-click and choose copy from the menu.

To edit cell contents: Click on the cell you need to edit. Put your cursor in the formula bar, make the changes, and hit Enter. OR double-click on the cell you need to edit and make changes directly in the cell.

To adjust column width: Position the mouse on the line between any two column headings. When the mouse is a dark, double-headed arrow, double-click. This AutoFit feature resizes the columns to the size of the longest item in the column. This feature also works with resizing the height of rows.
Project Two – Printing a Spreadsheet

In this section we will be using the Summary spreadsheet. We will be using the Page Layout and View ribbons.

Before printing any spreadsheet, always look at it in Print Preview:

Office Button -> Print -> Print Preview

Notice that:

1. We have zoomed in to get a better view of the spreadsheet.
2. It will take 8 pages to print this spreadsheet.
3. There are no gridlines displayed.

If we make a few adjustments, the spreadsheet can be printed on fewer pages.

Click on Close Print Preview to return to the edit screen.
1. Open the Page Layout ribbon. Click on Orientation. We see that the spreadsheet is in Landscape mode, just what we want for a wide spreadsheet like this one.

2. Since this file will be more than one page when printed, we’d like the header row to appear at the top of each page. To do this, click on Print Titles.

The Page Setup box will open. In the Rows to repeat at top: box type $1:$1. Then close the Page Setup box.

3. Turn on the gridlines for printing by checking the Print box.
4. Open the **Page Setup** box again by clicking on the arrow in the lower right corner of the **Page Setup** group.

Be sure that the **Page** tab is open. Type **79** in the **Adjust to:** box.

Now click on the **Margins** tab. Under **Center on page**, and check the boxes for **Horizontally** and **Vertically**.

Now close the **Page Setup** box. At this point, if we printed this spreadsheet, it would print on 3 pages instead of 8, be centered top-to-bottom and left-to-right, and have gridlines and headers on every page.
Now open the **View** ribbon and switch to **Page Layout** view:

5. On the spreadsheet itself, click on the **Click to add header** box:

Notice that a new ribbon has appeared, **Header & Footer Tools**, which contains options for adding various kinds of information to the header and/or footer.

Both the header and the footer are divided into 3 sections. Click in any section and either type text **OR** click on the various options in the **Header & Footer Elements** groups

- click in the left header box then click on **Current Date**.
- click in the center header box and type **International Summary**.
- click in the right header box and click on **Number of Pages**.
Project Three – Creating a Chart

Unlike previous versions of Excel, Excel 2007 has no Chart Wizard. To create a chart, first select the data. Click on **Insert** to open the **Insert** ribbon. In the **Charts** group select a chart type and the chart will be created. To access the full range of chart options, select the chart and then notice the new ribbon options that become available.

1. Open the **Chart** spreadsheet.
2. Select cells **A1:D8** and open the **Insert** ribbon.
3. In the **Charts** group, click on **Column**. Under **3-D Column** select **3-D clustered Column**.
4. Once a chart has been created and **SELECTED**, 3 new ribbons become available.
5. On the **Chart Tools Design** ribbon, click on **Move Chart**. Select **New Sheet** then click **OK**.
6. Open the **Chart Tools Layout** tab. Click on **Legend** and select **Show Legend at Top**.
7. Right click on the vertical axis labels. Using the **Mini Toolbar**, change the font to **Ariel** and make it **bold**.

8. Change the horizontal axis labels to **Ariel** and **bold**.

9. Open the Layout ribbon. At the left end of the ribbon, in the **Current Selection** group, select **Horizontal (Category) Axis**, from the **Chart Elements** box.

10. Click on **Format Selection** which is found right under the Chart Elements box.
    a. Click on **Alignment**.
    b. In the **Custom angle** box type **-45**. Then click on close.

11. From the **Design** ribbon select a new chart style.
Project Four – Setting Up an Inventory Sheet with Functions

Simple Formulas

In Excel, all formulas begin with an equal sign (=). The symbols used for each of the four different math operators are:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
</tr>
</tbody>
</table>

To create a simple formula:

- Select the cell where you want the result to appear.
- Type an equal sign (=).
- Type the address of the first cell needed in the formula.
- Type the math operator.
- Enter the second cell address.
- When the formula is complete, press enter.

A note on using parentheses in formulas: Math operations inside the parentheses happen first! For example:

\[
(2 + 5) \times 2 = 14 \\
2 + (5 \times 2) = 12
\]

Using Functions

In Excel, there are a number of built-in formulas. These built-in formulas are called functions; they perform specific operations and return values.

A commonly used function is AutoSum. The AutoSum function is used to quickly sum a group of cells. For convenience, an AutoSum button is part of the Home ribbon.

Other functions are easily accessible by clicking on the small arrow next to the Autosum symbol.

The full range of functions can be found on the Formulas ribbon.
1. We will now be using the Inventory spreadsheet.

We need to calculate the total available inventory of each date. To begin, we need to carry the Starting amount for each item into the Total Remaining column. This is one of the simplest formulas in Excel.

<table>
<thead>
<tr>
<th>Cell</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>I6</td>
<td>=E6</td>
</tr>
<tr>
<td>I10</td>
<td>=E10</td>
</tr>
<tr>
<td>I17</td>
<td>=E17</td>
</tr>
</tbody>
</table>

2. To calculate the ongoing totals, the formula in cell I7 would read:

   \[ \text{=I6-F7+G7-H7} \]

Enter the formula in cell I7 and the rest of the cells in Total Remaining column.

3. Right-click on cell H15 and select Insert Comment from the menu. In the box type:

   10 returned - defective

4. Insert a comment in cell H21: Transfer to Maryland Store

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Starting</th>
<th>Used</th>
<th>Deliveries</th>
<th>Transfers/Returns</th>
<th>Total Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3/2/2009</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>3/11/2009</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>3/15/2009</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3/21/2009</td>
<td>2</td>
<td>20</td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>3/2/2009</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>3/5/2009</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>3/10/2009</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3/11/2009</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3/17/2009</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>3/18/2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>3/27/2009</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>B</td>
<td>3/2/2009</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>3/10/2009</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>3/15/2009</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>3/23/2009</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>3/31/2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

Explain every transfer and return in a comment.
5. To complete the Summary report, begin with summary for Item A, click in cell E28 and type:

\[ =\text{SUM(F7:F9)} \]

Now create similar formulas for Items B and C.

6. To determine the average weekly usage for Item A, select cell F28 and type:

\[ =\text{E28/4} \]

Now create similar formulas for Items B and C.

<table>
<thead>
<tr>
<th>Item</th>
<th>Total Used</th>
<th>Weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>22</td>
<td>E28/4</td>
</tr>
<tr>
<td>B</td>
<td>30</td>
<td>E29/4</td>
</tr>
<tr>
<td>C</td>
<td>17</td>
<td>E30/4</td>
</tr>
</tbody>
</table>

7. Finally, we need to complete the Closing Inventory report. For Item A, select cell I28 and type:

\[ =\text{I9} \]

Now create similar formulas for Items B and C.

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>22</td>
</tr>
<tr>
<td>B</td>
<td>30</td>
</tr>
<tr>
<td>C</td>
<td>17</td>
</tr>
</tbody>
</table>
Project Five – Create a New Spreadsheet

Close the spreadsheet we have been using thus far in class. Also close Excel.

Reopen Excel. Save this new spreadsheet as **Class Exercise** in the **coursematerials** folder.

Now follow the directions to create a new spreadsheet:

1. Click-and-drag to select cells **C2:F2**. Merge the cells and type: **A1 Video Productions**. Make the text: **14 points, bold.**

   ![Image of merged cells with text]

2. In cells **A6:H6** type the following headers: Center the headers and make them bold.

   ![Table with headers]

3. Under **Last Name** and **First Name**, type the following names:

   ![Table with names]

4. Enter the remaining information for each person:

   ![Table with dates, salaries, and bonuses]
5. **Right-click on Row 11 and insert a new row. Then type this information:**

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Start Date</th>
<th>April - Salary</th>
<th>April - Bonus</th>
<th>% Bonus</th>
<th>3 Month Projected</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bourdine</td>
<td>Louis</td>
<td>11/20/2002</td>
<td>2875</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. **Sort the spreadsheet by last name:** click on cell A7 and use the **Sort** utility on the **Home** ribbon.

7. **To calculate the percentage of bonus to salary,** click in cell F7 and type: **=E7/D7.**

   Copy this formula down the rest of the column.
   (To copy, use the **Autofill handle**)  

   Then format these numbers with the % sign and 2 decimal places:

8. **Calculate the 3 month projected salary by multiplying the April salary by 3. In cell G7 type:** **=D7*3.** Then copy the formula down the column.  

9. **Calculate the total April paycheck:** salary plus bonus. In cell H7 type: **=D7+E7.** Then copy the formula down the column.

10. **Select cells G7:H14. Format these cells with a $ and no decimal places.**
11. Select cells G14:H14 and apply the bottom double border.  

12. In cells G15 and H15 use the Summation feature to insert a total.  

13. Select cells G6:H15 and apply a border and a background color.  

14. In cell A4 type: Date:  
   In cell A5 type: Time:  

   In cell B4 enter today’s date by using the keyboard shortcut: Ctrl + ;  
   In cell B5 enter the current time by using the keyboard shortcut: Ctrl - Shift + :  

EXCEL CHALLENGE: determine how many employees have salaries greater than $3000.  

1. Select cell D17.  
2. Open the Formulas ribbon.  
3. Click on More Functions, then click on Statistical. Finally, click on COUNTIF.  
5. In the Criteria box type: >3000  
6. Click OK.
Odds and Ends

Spreadsheet Size

In Excel 2007 the total number of cells in a spreadsheet has increased by a factor of 1024.

<table>
<thead>
<tr>
<th>Version</th>
<th>Rows</th>
<th>Columns</th>
<th>Total Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excel 97 - 2003</td>
<td>65,536</td>
<td>256</td>
<td>16,777,216</td>
</tr>
<tr>
<td>Excel 2007</td>
<td>1,048,576</td>
<td>16,384</td>
<td>17,179,869,184</td>
</tr>
</tbody>
</table>

Excel 2007 File Types

Excel 2007 files are saved in a new format with new file extensions. The ordinary Excel spreadsheet is saved with a 4 letter extension: .xlsx A macro-enabled spreadsheet is saved as: .xlsm

Users of older versions of Excel will not be able to open these files unless they have downloaded the Excel conversion utility, available at no charge from Microsoft. Excel 2007 files can also be saved in Excel 97-2003 formats by doing a Save As

Compatibility Mode

When older Excel files are opened in Excel 2007, the words Compatibility Mode will appear in the Title Bar.

Address.xls [Compatibility Mode] - Microsoft Excel

This indicates that the file is in a version of Excel other than 2007. In order for the new 2007 features to be added to the file, it must be saved in the new Excel 2007 format as a .xlsx file. (Do a Save As…)

Compatibility Checker

To determine if features in your spreadsheet are compatible with older versions of Excel, run the Compatibility Checker:

- Click on the Office Button.
- Click on Prepare.
- Select Run Compatibility Checker.
<table>
<thead>
<tr>
<th>Hold down</th>
<th>And then press</th>
<th>Function</th>
<th>Also work in other Windows programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl c</td>
<td></td>
<td>Copy</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl x</td>
<td></td>
<td>Cut</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl v</td>
<td></td>
<td>Paste</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl z</td>
<td></td>
<td>Undo</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl y</td>
<td></td>
<td>Redo</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl p</td>
<td></td>
<td>Print</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl s</td>
<td></td>
<td>Save</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl a</td>
<td></td>
<td>Select All</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl b</td>
<td></td>
<td>Bold</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl i</td>
<td></td>
<td>Italic</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl Home</td>
<td></td>
<td>Go to the 1st cell in the spreadsheet</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl End</td>
<td></td>
<td>Go to the last cell in the spreadsheet</td>
<td>*</td>
</tr>
<tr>
<td>Ctrl ↓</td>
<td></td>
<td>Travel down</td>
<td></td>
</tr>
<tr>
<td>Ctrl →</td>
<td></td>
<td>Travel right</td>
<td></td>
</tr>
<tr>
<td>Ctrl ↑</td>
<td></td>
<td>Travel up</td>
<td></td>
</tr>
<tr>
<td>Ctrl ←</td>
<td></td>
<td>Travel left</td>
<td></td>
</tr>
<tr>
<td>Ctrl Shift↓</td>
<td></td>
<td>Select down</td>
<td></td>
</tr>
<tr>
<td>Ctrl Shift→</td>
<td></td>
<td>Select right</td>
<td></td>
</tr>
<tr>
<td>Ctrl Shift↑</td>
<td></td>
<td>Select up</td>
<td></td>
</tr>
<tr>
<td>Ctrl Shift←</td>
<td></td>
<td>Select left</td>
<td></td>
</tr>
<tr>
<td>Ctrl Shift8</td>
<td></td>
<td>Select the current region</td>
<td></td>
</tr>
<tr>
<td>Ctrl ~</td>
<td></td>
<td>Show all formulas</td>
<td></td>
</tr>
<tr>
<td>Tab</td>
<td></td>
<td>Move to the next cell to the right</td>
<td>*</td>
</tr>
<tr>
<td>Shift Tab</td>
<td></td>
<td>Move to the next cell to the left</td>
<td>*</td>
</tr>
<tr>
<td>F1</td>
<td></td>
<td>Open Help</td>
<td>*</td>
</tr>
<tr>
<td>F2</td>
<td></td>
<td>Open Edit mode in a cell</td>
<td>*</td>
</tr>
<tr>
<td>F9</td>
<td></td>
<td>Recalculate the formulas in the spreadsheet</td>
<td>*</td>
</tr>
<tr>
<td>F11</td>
<td></td>
<td>Create a chart</td>
<td>*</td>
</tr>
</tbody>
</table>