

CREATING A WORKSHEET WITH FORMULAS AND FUNCTIONS

It is a very simple process to create a worksheet in Excel. As an example of creating a workbook in Excel, you will create the following worksheet. Follow the steps carefully. For information about cells, columns, and rows, click the link for Excel Basics. When the Excel program is first opened, a new workbook window will display. However, it is sometimes necessary to create a new workbook when another worksheet has been closed.

CREATING A NEW BLANK WORKBOOK

- ❖ Click the **Office Button**.
- ❖ Click the **New** button within the **Office Button** list.
- ❖ The **New Workbook** window will display.
 - The **Blank and recent** link will be selected in the left frame.
 - The **Blank Workbook** option will be selected in the middle frame.
 - In the right frame, a view of the blank workbook will display.
- ❖ Click the **Create** button to create a new blank workbook.

INPUTTING DATA

- ❖ Click cell **A1** and input **High-Tech Stock Club**.
- ❖ Press the **Enter** key to move to cell **A2**.
- ❖ Type **Stock** and press the right arrow key.
- ❖ Type **Symbol** and press the right arrow key.
- ❖ Type **Date** and press **Alt+Enter**. This command allows you to enter two lines of information into a single cell.
- ❖ Type **Acquired** and press the right arrow key.
- ❖ Type **Shares** and press the right arrow key.
- ❖ Type **Initial** and press **Alt+Enter**.
- ❖ Type **Price** and then press the right arrow key.
- ❖ Type **Current** and press **Alt+Enter**.
- ❖ Type **Price** and press the right arrow key.
- ❖ Input the rest of the data for the worksheet as shown in the Table below.

High Tech Stock Club					
Stock	Symbol	Date Acquired	Shares	Initial Price	Current Price
Hewlett-Packard	HP	5/30/2007	550	60.5	80.75
Dell	DELL	1/15/2007	400	30	120.5
Intel	INTE	3/15/2007	550	45.5	75.5
Microsoft	MICR	12/30/2006	300	50	129.5
Compaq	COMP	1/21/2007	150	80	65

INPUTTING ADDITIONAL LABELS

- ❖ Select cell **A8** and input **Total**.
- ❖ Press the **Enter** key to move to cell **A9**.
- ❖ Input **Average**.
- ❖ Press **Enter** and input **Highest**.
- ❖ Press **Enter** again and input **Lowest**.
- ❖ Press **Enter** one more time and input **Percentage Gain/Loss =====>**
- ❖ Save the worksheet by clicking the Save button on the **Standard** toolbar.

INSERTING COLUMNS AND ROWS

Inserting a Column

- ❖ When inserting a column, you have to select the column to the right of the one to be inserted.
- ❖ Select column **F** by clicking on the letter **F** above the column.
- ❖ Click the **Home Tab**, if necessary.
- ❖ In the **Cells Group**, click the **Insert** button.
- ❖ A column will be inserted and column **F** will become column **G**.
- ❖ In cell **F2**, input **Initial**.
- ❖ Press **Alt + Enter**.
- ❖ Input **Cost**.
- ❖ Go to cell **H2** and input **Current Value** so it appears on two lines.
- ❖ Press the right arrow key to move to cell **I2**.
- ❖ Input the text **Gain/Loss**.
- ❖ Don't worry if the data in column **I** goes to two lines. That will be corrected later.

Inserting a Row



- ❖ When inserting a row, you have to select the row below the one to be inserted.
- ❖ Select **row 2** by clicking the number **2** in the gray area.
- ❖ Click the **right** mouse button.
- ❖ Choose **Insert** from the list of choices.
- ❖ A new row will be inserted after the title line.
- ❖ Complete the same procedure to insert a row between the **Total** row and the **Average** row.

WORKING WITH FORMULAS AND FUNCTIONS

Entering Formulas Using the Keyboard

- ❖ Click in cell **F4**, and type **=d4*e4**.
- ❖ The formula will appear in cell **F4** and in the **Formula Bar**.
- ❖ Press the right arrow key twice to select cell **H4**.
- ❖ Instead of displaying the formula in **F4**, the result of the formula will be displayed.

Entering Formulas Using the Point Method

- ❖ With cell **H4** selected, input the **equal (=) sign**.
- ❖ Click cell **D4** to select it.
- ❖ A marquee will appear around cell **D4** and **D4** will appear in the formula.
- ❖ Input an **asterisk** (multiplication sign *****) and then click cell **G4**.
- ❖ Click the **Enter** button on the **Formula Bar** (see illustration at right) or press the **Enter** key. 
- ❖ Click cell **I4**.
- ❖ Press the **equal sign (=)** on the keyboard or click the equal sign (=) on the **Formula Bar**.
- ❖ Click cell **H4**.
- ❖ Input a **hyphen** (minus sign **-**).
- ❖ Click cell **F4**.
- ❖ The formula **=H4-F4** should appear in cell **I4** and in the **Formula Bar**.
- ❖ Press the **Enter** key or click the green **Enter** button on the **Formula Bar** to accept the formula. (See the illustration at the right.) 
- ❖ To cancel the operation, click the **Cancel** button on the **Formula Bar**. This is the **x** that appears on the bar. (See the illustration above right.)

Copying Formulas Using the Fill Handle

- ❖ Click cell **F4** then point to the **Fill Handle**.
- ❖ The Fill Handle is the small square in the lower right corner of the cell selector. (See the illustration at the right.)
- ❖ Move the mouse pointer to the bottom right corner of the box until the mouse pointer turns to a black plus sign. (See the illustration at the right.)
- ❖ Click and drag the **Fill Handle** through cell **F8**.
- ❖ The results of the formula should appear in all the cells.
- ❖ Select cells **H4** and **I4**.
- ❖ Move the mouse pointer to the bottom right corner of the box in cell **I4**.
- ❖ Drag the Fill Handle down through **H8:I8**.
- ❖ The results of the formulas that were entered in cells **H4:I4** will be copied to cells **H5:I8**.



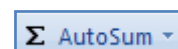
Functions

- ❖ Functions take a value or values, perform an operation, and return a value or values.
- ❖ Each function begins with an equals sign.
- ❖ Arguments are included in parentheses. An example of a function is =AVERAGE(D3:D7). In this function:
 - AVERAGE is the function name.
 - D3:D7 is the argument.
 - The arguments are the cells in the worksheet for which the calculation is being performed.

COMPLETING THE TOTAL, AVERAGE, HIGHEST, AND LOWEST FUNCTIONS

Summing Columns of Numbers

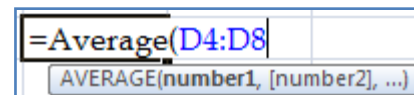
- ❖ Select cells **F4** through **F9**.
- ❖ Click the **Formulas Tab**.
- ❖ In the **Function Library Group**, click the **AutoSum** button (see illustration at right).
- ❖ The **Total** for the column **Initial Cost** should appear in row **9**.
- ❖ Select cells **H4** through **I9** and click the **AutoSum** button.
- ❖ The total for the columns **Current Value** and **Gain/Loss** should appear in row **9**.



Inputting Formulas/Functions

Average Function

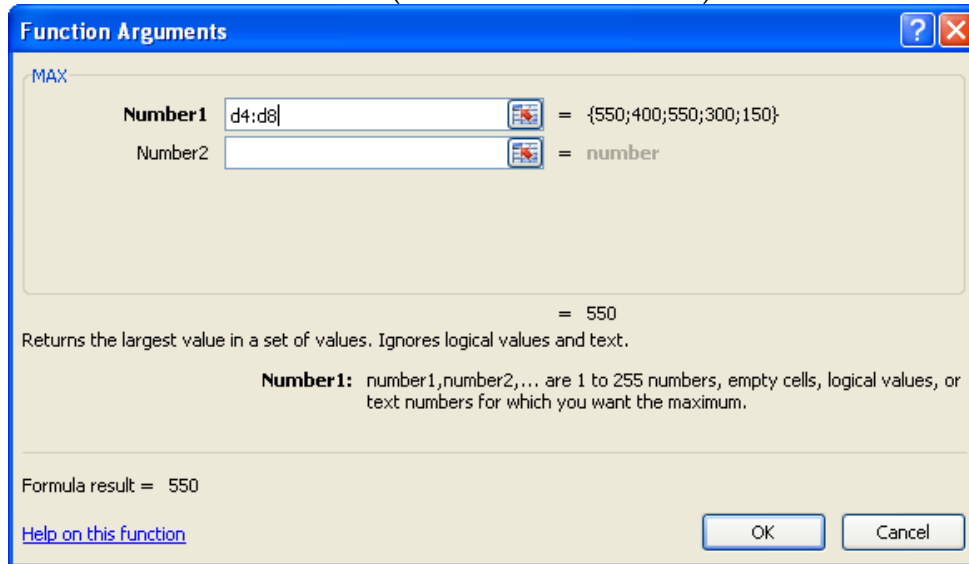
- ❖ Select cell **D11** and input =Average(.
 - ❖ Click cell **D4** and drag through cell **D8** to select the range **D4** through **D8**.
 - ❖ A marquee will surround the range.
 - ❖ **D4:D8** will appear in the cell after the parentheses (see illustration at right).
- ❖ Click the **Enter** button next to the **Formula Bar**.
 - It is not necessary to input a closing parenthesis to close the function.
 - The parenthesis will be inserted by the Excel program when the Enter key is clicked.



Maximum Function

- ❖ Select cell **D12**.
- ❖ Click the **Formulas Tab**.
- ❖ In the **Function Library Group**, click the **More Functions** button.
- ❖ Choose **Statistical** from the list.

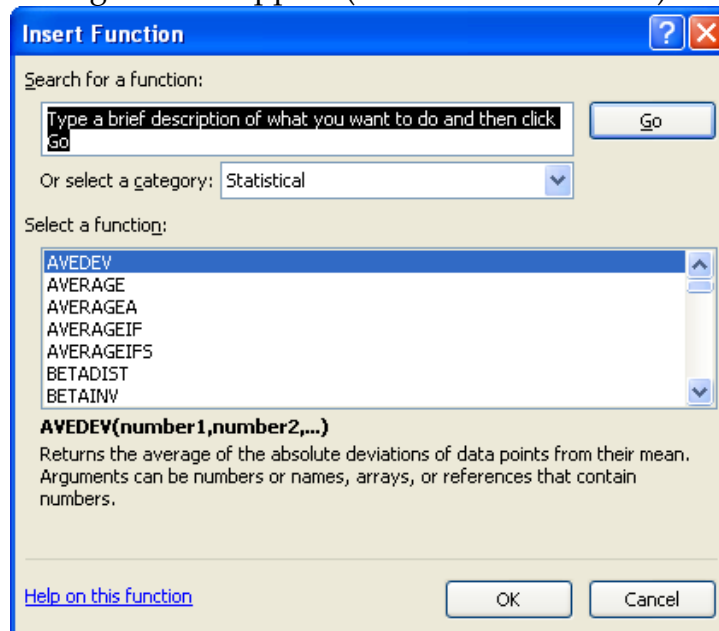
- ❖ A list of **Statistical** functions will appear.
- ❖ Scroll down the list to locate the **MAX** function. The functions are listed in alphabetical order.
- ❖ Click **MAX**.
- ❖ The **Function Arguments** dialog box will appear.
- ❖ and then click the **OK** button.
- ❖ Input **D4:D8** inside the **Number 1** box (see illustration below).



- ❖ Click **OK**.
- ❖ The Highest number **550** should appear in the cell.

Minimum Function

- ❖ Select cell **D13** and click the **Insert Function** button on the **Formula Bar** (see the illustration at the right).
- ❖ The **Insert Function** dialog box will appear (see illustration below).



- ❖ Make sure that **Statistical** is selected for the **Category**.
- ❖ Choose **MIN** from the list of functions.
- ❖ Click the **OK** button.
- ❖ The **Function Arguments** dialog box will display (see illustration at top of this page).

- ❖ Click the **Collapse** button in the **Number 1** text box. This is the one with a red arrow that appears at the end of the box where the cell references appear. (See the illustration at the right.)



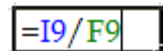
- ❖ Select cells **D4:D8** and then click the **Expand** button. This is the one that appears at the end of the text box. (See the illustration below.)



- ❖ Click the **OK** button. The lowest number in the column should appear.
- ❖ Select cells **D11** through **D13**.
- ❖ Using the **AutoFill** feature, copy these functions from columns **E** through **I**.

Figuring the Percentage of Gain/Loss

- ❖ Click cell **D14** and input an **equals (=) sign**.
- ❖ Click cell **I9** and input a forward slash to indicate division.
- ❖ Click cell **F9**.
- ❖ The **Formula =I9/F9** should appear in the cell and in the **Formula Bar** (see illustration at right).
- ❖ Click the **Enter** button on the **Formula Bar** or press the **Enter** key.
- ❖ The value **0.878083** should appear in the cell.
- ❖ Select **F9** again.
- ❖ On the **Home Tab** in the **Number Group**, click the **Percent** button (see illustration at right).
- ❖ Save the worksheet.



DELETING ROWS


- ❖ Select row **2** by clicking on the number **2** in the gray area.
- ❖ Click the right mouse button.
- ❖ Choose **Delete** from the list of options.
- ❖ Follow the same procedure to remove the row between **Total** and **Average**.

CHANGING THE FONT AND CENTERING THE TITLE



- ❖ Select cell **A1** and then click the **Home Tab**, if necessary.
- ❖ Change the **Font** to **Arial Black** and the **Point Size** to **20 point**.
- ❖ Select cells **A1** through **I1**.
- ❖ Click the **Home Tab**, if necessary.
- ❖ In the **Alignment Group**, click the **Merge and Center** button.
 - This is the button that has an **a** with an arrow on each side of it.
 - See the illustration top right.
- ❖ With cell **A1** selected, click the **Fill Color** button in the **Font Group**. (See the illustration middle right.)
- ❖ The **Fill Color** palette will display.
- ❖ Click a color from the **Fill Color** gallery.
- ❖ Click the **Font Color** button in the **Font Group**. (See the illustration bottom right.)
- ❖ The **Font Color** palette will display.
- ❖ Click a color from the **Font Color** gallery.

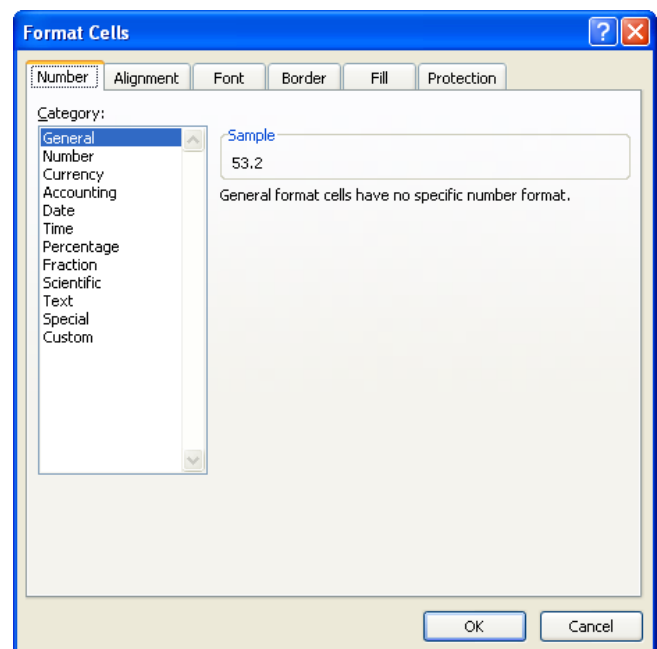


Bold, Center, and Underline the Column Titles

- ❖ Select the range **A2** through **I2**.
 - ❖ Click the **Home Tab**, if necessary.
 - ❖ In the **Font Group**, click the **Bold** button.
 - ❖ In the **Alignment Group**, click the **Center** button.
 - ❖ The column titles in **row 2** should be **bold** and **centered**.
 - ❖ Make sure the cell ranges **A2** through **I2** are still selected.
 - ❖ In the **Font Group**, click the list arrow beside the **Borders** button. (See the illustration at the right.)
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- ❖ A list of different border styles will appear.
 - ❖ Click the **Thick Bottom Border** options from the list.
 - ❖ A heavy bottom border will be added to the range **A2** through **I2**.
 - ❖ Select the range **B3** through **B7**.
 - ❖ Hold down the **Ctrl** key.
 - ❖ Select the range **D3** through **D11**.
 - ❖ In the **Alignment Group**, click the **Center** button.


FORMATTING NUMBERS

- ❖ Select the range **E3** through **I3**.
 - ❖ Hold down the **Control** key and select cells **E8** through **I8**.
 - ❖ Point to and then click the **Currency Style** button in the **Number Group**. (See the illustration at the right.)
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- ❖ The cells will do one of the following:
 - The width of the cells may expand to accommodate the numbers.
 - The number may appear as pound symbols. Ignore this for right now; we will change that later
 - ❖ Select the range **E4** through **I7**.
 - ❖ Click the **Comma Style** button on the Formatting toolbar. (See the illustration at the right.)
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- ❖ Select the range **A7** through **I7**.
 - ❖ Click the **Borders** button in the **Font Group**.
 - The Borders button remains set to the heavy bottom border assigned to row 2.
 - To assign the heavy bottom border to the range **A7** through **I7**, you simply click the **Borders** button.
 - ❖ Select the range **E9** through **I11**.
 - ❖ Right-click the selected range.
 - ❖ Click **Format Cells** from the list that appears.
 - ❖ The **Format Cells** dialog box will appear. (See the illustration at the right.)
 - ❖ Click the **Number** tab in the **Format Cells** dialog box.
 - ❖ Selecting one of these options lets you specify how numbers in the selected range are to be formatted.
 - ❖ Click **Currency** in the **Category** list.




COPYING CELL FORMATS



After formatting a cell on a worksheet, it might be necessary to apply this same formatting to other cells in the worksheet. Rather than selecting each item and formatting it, it is possible to copy the format of each cell and then paint (that is, copy) the format from one cell to the others.

- ❖ Select cell **A12**.
- ❖ Click the **Home Tab**, if necessary.
- ❖ In the **Font Group**, click the **Bold** button.
- ❖ In the **Clipboard Group**, click the **Format Painter** button. (See the illustration at the right.) 
- ❖ Drag to select the cells **A8** through **A11**.
- ❖ When the mouse button is released, the selected cells will appear with the new formatting.

CHANGING COLUMN WIDTH

- ❖ Point to the boundary on the right side of the letter **B** in the column heading until the mouse turns to a double left and right black arrow with a straight up and down black line (see illustration at right). 
- ❖ Drag until the **Screen Tip Width** displays approximately **7.14** or close to that number.
- ❖ Release the mouse button.
- ❖ Point to the **boundary** on the right side of the **column D** heading.
- ❖ Drag the mouse to the **left** until the **Screen Tip Width** displays approximately **7.89**.
- ❖ A dotted line will show the proposed right border of column **D**.
- ❖ Release the mouse button.
- ❖ Adjust all of the other columns so they are a little bit wider and so that all the labels and values appear properly.

CHANGING ROW HEIGHT

- ❖ Point to the boundary between **Row Heading 1** and **Row Heading 2**.
- ❖ The mouse pointer should change to a double black up and down arrow with a right and left straight line (see illustration at right). 
- ❖ Drag the mouse pointer down until the **Screen Tip Height** displays **36.00**.
- ❖ Release the mouse button.
- ❖ Increase the **Font Size** for the heading in row 1.
- ❖ Click the **Home Tab**, if necessary.
- ❖ In the **Alignment Group**, click the **Middle Align** button (see illustration at right). 
- ❖ Click the **Save** button on the **Standard** toolbar.
- ❖ Place a **Thick Bottom Border** below row 8.