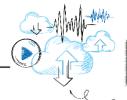
Excel Module 2

Working with Formulas and Functions









- Create a complex formula
- Insert a function
- Type a function
- Copy and move cell entries
- Understand relative and absolute cell references
- Copy formulas with relative cell references
- Copy formulas with absolute cell references
- Round a value with a function





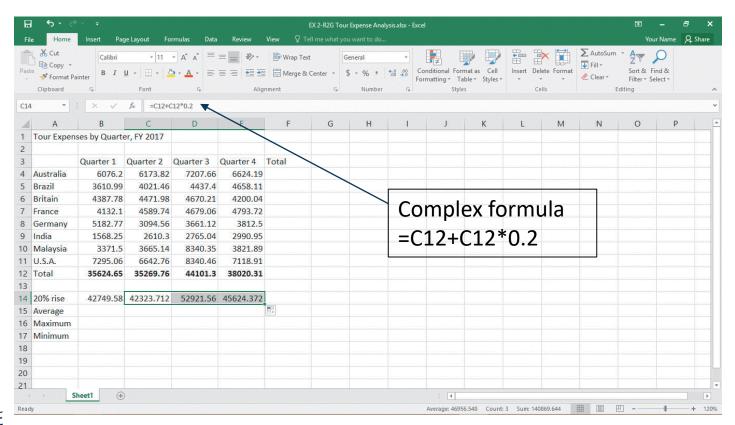
Create a Complex Formula (Slide 1 of 2)

- A complex formula is an equation that uses more than one type of arithmetic operator
 - Example: formula that uses both addition and multiplication
- Arithmetic operations are performed according to the order of precedence
 - Operations inside parentheses are calculated first
 - Exponents are calculated next
 - Multiplication and division are calculated next (from left to right)
 - Addition and subtraction are calculated next (from left to right)





Create a Complex Formula (Slide 2 of 2)



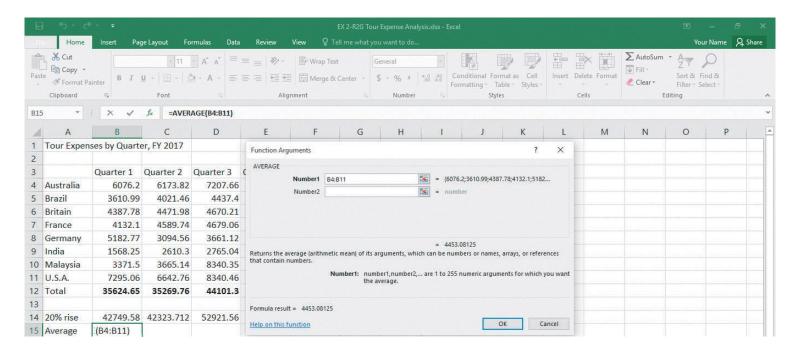


- A function is a predefined worksheet formula that makes it easy to perform a complex calculation
 - Can be used by itself or within a formula
 - If used alone, begins with the formula prefix (=)
 - Functions are organized into categories (such as Financial, Date & Time, Statistical)





Expanded Function Arguments dialog box





- A function can be typed manually into a cell
 - Must know the name and initial characters of the function
 - Can be faster than using the Insert Function dialog box
 - Experienced Excel users often prefer this method
- Necessary to begin with the equal sign (=) when typed manually
- Once you type an equal sign, each letter you type activates the AutoComplete feature



MAX function in progress

17	Minimum	/linimum MAX(number1, [number2],)				
16	Maximum	=MAX(
15	Average	4453.0813	4408.72	5512.6625	4752.5388	
14	20% rise	42749.58	42323.712	52921.56	45624.372	
13						





Copy and Move Cell Entries (Slide 1 of 2)

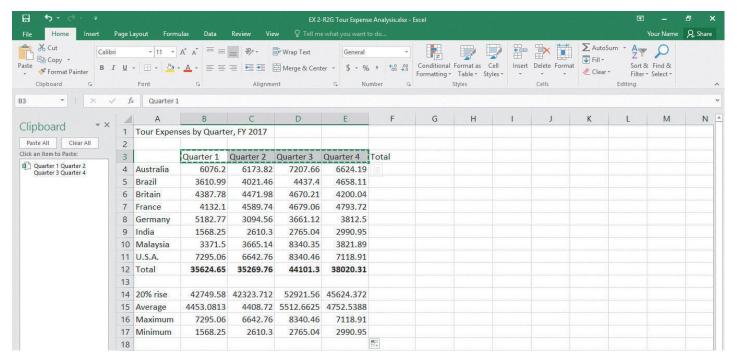
- You can copy or move data within a worksheet or between worksheets using:
 - Cut, Copy, and Paste buttons
 - Fill handle in the lower-right corner of the active cell
 - Drag-and-drop feature
- Clipboard temporarily stores information that you copy or cut
- Pasting an item from the Clipboard
 - Only need to specify the upper-left cell of the range where you want to paste the selection





Copy and Move Cell Entries (Slide 2 of 2)

Copied data in Office Clipboard







Understand Relative and Absolute Cell References (Slide 1 of 4)

- Use a relative cell reference when you want to preserve the relationship to the formula location
 - Calculations are performed based on cell relationship
 - When a formula is copied, the cell reference changes to preserve the relationship of the formula to the referenced cells
 - Default in Excel
- Use an absolute cell reference when you want to preserve the exact cell address in a formula
 - Reference does not change even if the formula is copied to another location
 - Created by placing a dollar sign (\$) before both the column letter and the row number for the cell's address





Understand Relative and Absolute Cell References (Slide 2 of 4)

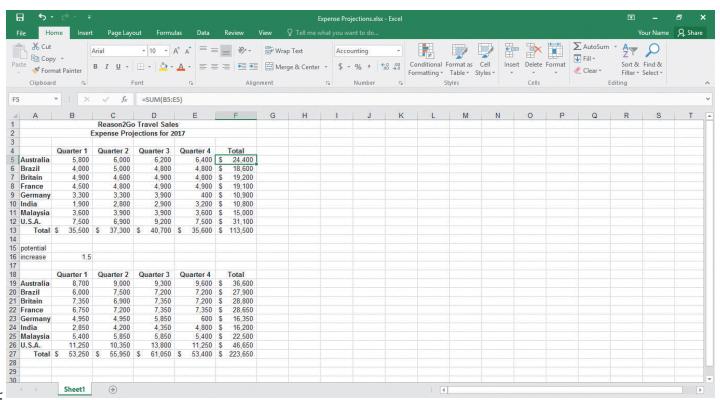
- Mixed reference combines both relative and absolute cell referencing
 - Example: When you copy a formula, you may want to change the row reference but keep the column reference
 - Created using the [F4] function key





Understand Relative and Absolute Cell References (Slide 3 of 4)

Formula containing relative references

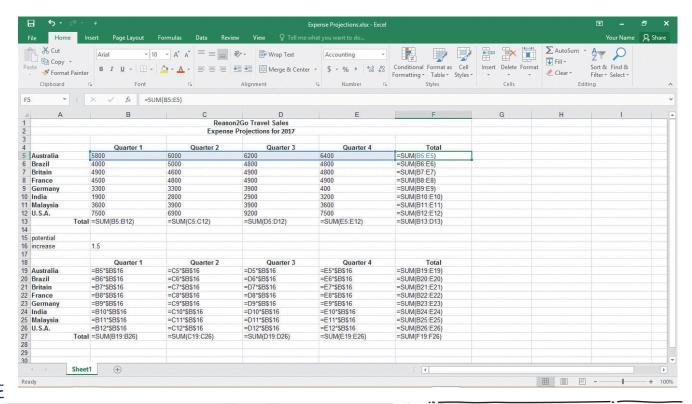






Understand Relative and Absolute Cell References (Slide 4 of 4)

Formula containing absolute and relative references







Copy Formulas with Relative Cell References (Slide 1 of 2)

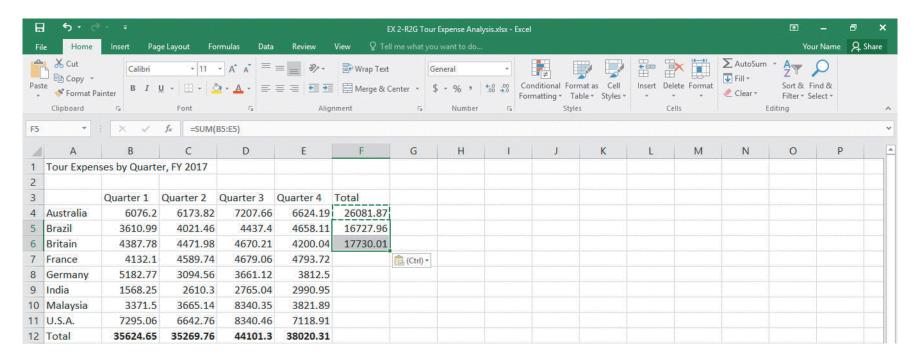
- Reuse formulas you have created
- Use Copy and Paste commands or the fill handle to copy formulas
- Copying a formula to a new cell
 - Excel substitutes new cell references so that the relationship of the cells to the formula remains unchanged
- Auto Fill feature can be used for filling cells with sequential text or values
 - Months of the year; days of the week; or text plus a number (Quarter 1, Quarter 2, etc.)
 - Drag the fill handle to extend an existing sequence





Copy Formulas with Relative Cell References (Slide 2 of 2)

Formula pasted in a range







Copy Formulas with Absolute Cell References (Slide 1 of 2)

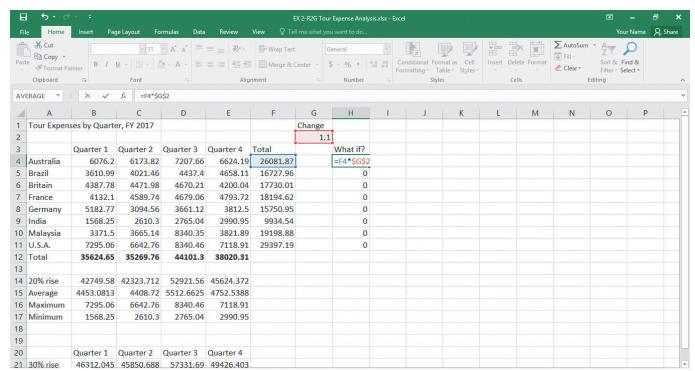
 Apply absolute cell reference before copying a formula if you want one or more cell references to remain unchanged in relation to the formula





Copy Formulas with Absolute Cell References (Slide 2 of 2)

Absolute reference created in formula







Round a Value with a Function (Slide 1 of 2)

- Cells containing financial data are often easier to read if they contain fewer decimals
- Use the ROUND function to round down your results





Round a Value with a Function (Slide 2 of 2)

ROUND function added to an existing formula

