

Chapter 5: Basic Formulas and Function

Learning Objectives

- Understand the purpose of Formulas
- Apply basic arithmetic operators: Addition, subtraction, multiplication and division.
- Apply basic Functions: SUM, AVERAGE, MIN, MAX, etc.

What is a formula? (1/3)

- An expression that performs calculation on data that is entered into the spreadsheet.
- It is user defined expression that is entered using the keyboard.
- An excel formula is entered with (=) sign being entered first
- Functions are predefined formulas built into the system which the user can have access to range of functions by clicking on Insert Function. The Insert Function will open giving the range of function to choose from.

What is a formula? (2/3)

Function name	Description	Excel function
SUM	Finds the sum of the numbers in the specified cells	=sum(cell range)
AVERAGE	Find the average of the numbers in the specified cells	=average(cell range)
COUNT	Finds the number of cells in the specified range that contains numbers.	=count(cell range)
MAX	Finds the largest value in the specified cells	=max(cell range)
MIN	Finds the smallest value in the specified cells.	=min(cell range)

What is a formula? (3/3)

Formula Tab>Functions Library Group>Insert Function

- Always start off your formula with an equal sign.
- When referring to the value in a cell always start with the Column name and then the row number (Example: =C1*C3)
- Excel also provides some in built functions that can be used to do calculations.

Referencing Cell (1/2)

- Relative references change based on their new location when a formula is copied. Ideal for calculations that need to adjust as they move across rows and columns. (Example: A1)
- Absolute references remain constant, regardless of where they are copied, as indicated by the dollar signs (\$) before the column and row. Useful when you need to reference a specific cell in multiple calculations. (Example: \$A\$1)
- Mixed references lock either the column or row but not both. Helpful for calculations that need partial consistency. (Example A\$1 or \$A1)

Referencing Cell (2/2)

- To make the row or column of a cell Absolute simply add the dollar sign in front of the row or column. (Textbook 2, pg no. 82)
- Relative Columns and Rows (Example C4)
- Absolute Columns and rows (Example \$C\$4)
- Relative Columns and Absolute Rows (Example C\$4)
- Absolute columns and relative rows (Example \$C4)
- Relative references change a formula is copied to another cell where as absolute remains constant no matter where they are copied.

Nested If Function

- Nested If Function is a powerful tool used for everything for evaluating multiple conditions within a single formula.

<i>f_x</i>	<code>=IF(D2>89,"A",IF(D2>79,"B",IF(D2>69,"C",IF(D2>59,"D","F"))))</code>							
	C	1	D	2	E	3	4	5
	Student	Score	Grade					
	Bob	73	C					
	Sue	89	B					
	Rishna	92	A					
	Mo	87	B					

Chapter 5: Review Questions

- Explain the following terms:
 - *Formula*
 - *Function*
 - *PEMDAS*
 - *Cell reference*
 - *Relative Cell Reference*
 - *Absolute Cell Reference*
 - *Mixed Cell Reference*

Thank
you

