



# MICROSOFT EXCEL

POWER TIPS AND TRICKS

# FILTERS

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## WHAT IS A FILTER?

Filters allow the user to only see data that meets certain criteria.

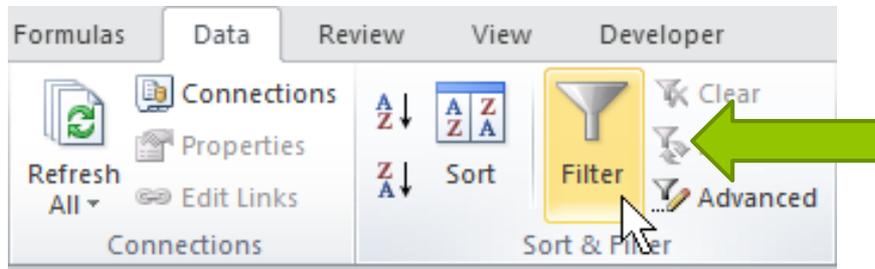
	A	B	C	D	E
1	<b>Player Name</b> ▼	<b>Team</b> ▼	<b>Pos</b> ▼	<b>G</b> ▼	<b>AB</b> ▼
2	Abreu, Jose	CWS	1B	154	613
3	Ackley, Dustin	SEA	OF	85	186
4	Adams, Matt	STL	1B	60	175
5	Adrianza, Ehire	SF	SS	52	113



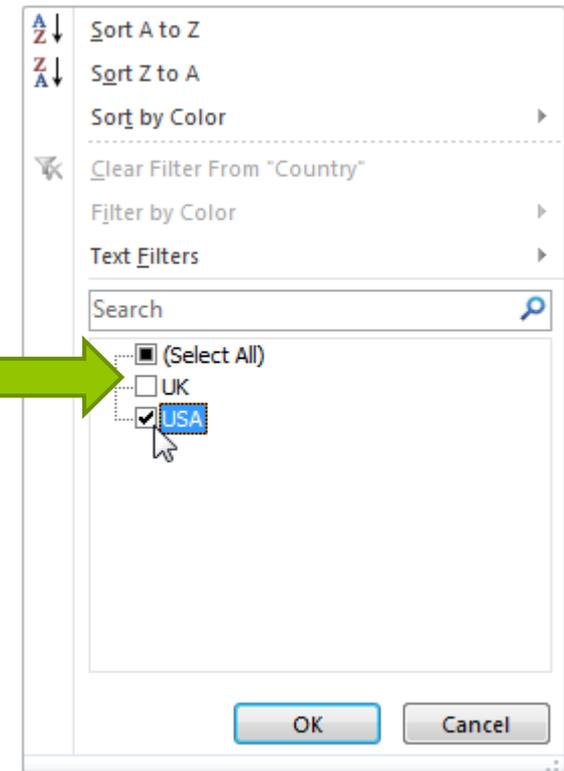
# FILTERS

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- ▶ Click any single cell inside a data set.
- ▶ On the Data tab, click Filter.



- ▶ Arrows will appear above columns.
- ▶ Click and Arrow then use the check boxes to filter.

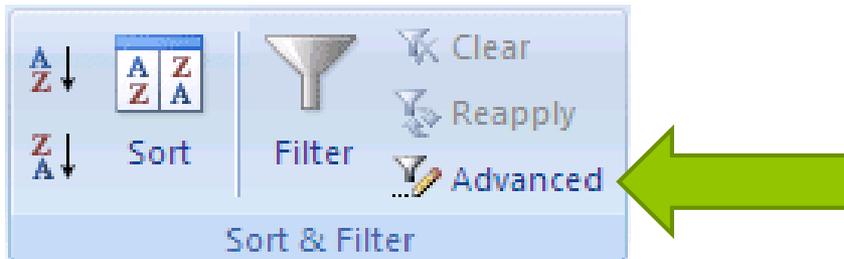


# UNIQUE VALUES

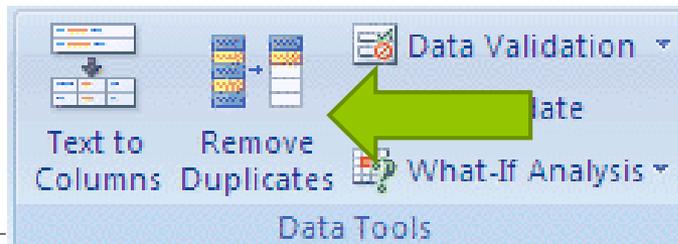
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There are several ways to filter for unique values or remove duplicate values:

- ▶ To filter for unique values, use the **Advanced** command in the **Sort & Filter** group on the **Data** tab.



- ▶ To remove duplicate values, use the **Remove Duplicates** command in the **Data Tools** group on the **Data** tab.



# VLOOKUP

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## **What is VLOOKUP?**

You can use VLOOKUP when you need to find things in a table or a range by row. For example, look up an employee's last name by her employee number, or find her phone number by looking up her last name.



# VLOOKUP

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## Syntax:

▶ The syntax for the VLOOKUP function is:

VLOOKUP (value, table, index\_number, [not\_exact\_match])

## ▶ Parameters or Arguments

- ▶ **Value:** The value to search for in the first column of the *table*.
  - ▶ **Table:** Two or more columns of data that is sorted in ascending order.
  - ▶ **Index number:** The column number in *table* from which the matching value must be returned. The first column is 1.
  - ▶ **Not exact match:** Optional. It determines if you are looking for an exact match based on *value*. Enter FALSE (or 0) to find an exact match. Enter TRUE (or 1) to find an approximate match, which means that if an exact match is not found, then the VLOOKUP function will look for the next largest value that is less than *value*. If this parameter is omitted, the VLOOKUP function returns an approximate match.
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# NAMED CELLS AND RANGES

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- ▶ By using names, you can make your formulas much easier to understand and maintain.
- ▶ A name can be shorthand that makes it easy to understand the purpose of a cell reference, constant, formula, or table.
- ▶ All names have a scope, either to a specific worksheet (local worksheet level) or to the entire workbook (global workbook level).



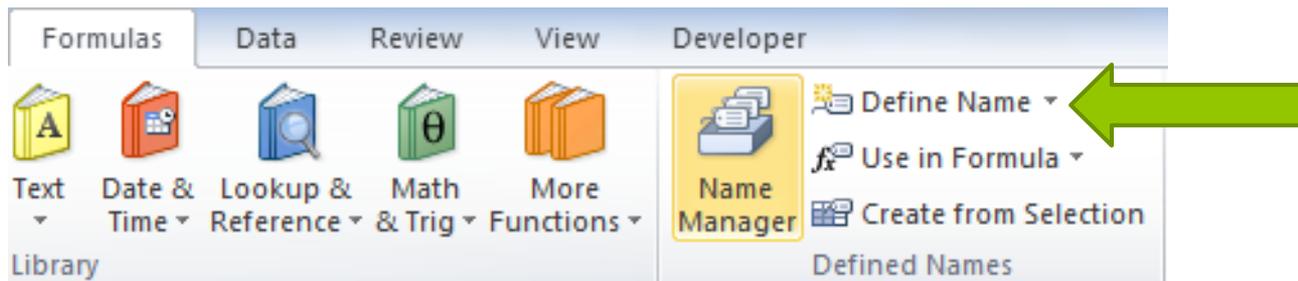
# NAMED CELLS AND RANGES

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- ▶ **Name box on the formula bar:** This is best used for creating a workbook level name for a selected range.



- ▶ **Create a name from selection:** Right click your selection and select Define Name...
- ▶ **Define Name box:** This is best used for when you want more flexibility in creating names.



# SUMIF

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## What is **SUMIF**?

You can use the **SUMIF** function to sum the values in a range that meet criteria you specify. For example, suppose that in a column of numbers you want to sum only the values that are larger than 30.



# SUMIF

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## Syntax:

- ▶ SUMIF (range, criteria, [sum\_range])
  - ▶ **Parameters or Arguments:**
    - ▶ **Range:** The range of cells that you want evaluated by criteria. Cells in each range must be numbers or names, arrays, or references that contain numbers. Blank and text values are ignored.
    - ▶ **Criteria:** The criteria in the form of a number, expression, a cell reference, text, or a function that defines which cells will be added. For example, criteria can be expressed as 32, ">32", B5, "32", "apples", or TODAY().
    - ▶ **Important:** Any text criteria or any criteria that includes logical or mathematical symbols must be enclosed in double quotation marks ("). If the criteria is numeric, double quotation marks are not required.
    - ▶ **Sum\_Range:** The actual cells to add, if you want to add cells other than those specified in the *range* argument. If the *sum\_range* argument is omitted, Excel adds the cells that are specified in the *range* argument (the same cells to which the criteria is applied).
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# SUMIFS

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## What is **SUMIFS**?

You can use the **SUMIFS** function in Excel to sum the values in a range of cells that meet *multiple* criteria. For example, you might use the SUMIFS function in a sales spreadsheet to add up the value of sales of a specified product by a given sales person



# SUMIFS

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## Syntax:

- ▶ SUMIF (sum\_range, criteria\_range1, criteria1, [criteria\_range2, criteria2, ... criteria\_range\_n, criteria\_n] )
  - ▶ **Parameters or Arguments**
    - ▶ **Sum\_Range:** The cells to sum.
    - ▶ **Criteria\_Range1:** The range of cells that you want to apply *criteria1* against.
    - ▶ **Criteria1:** Used to determine which cells to add. *criteria1* is applied against *criteria\_range1*.
    - ▶ **Criteria\_Range\_n:** The range of cells that you want to apply *criteria\_n* against. There can be up to 127 ranges.
    - ▶ **Criteria\_n:** Used to determine which cells to add. *Criteria\_n* is applied against *criteria\_range\_n*. There can be up to 127 criteria.
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# COUNTIF

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## WHAT IS COUNTIF?

You can use **COUNTIF** to count the number of cells that meet a criterion; for example, to count the number of times a particular city appears in a customer list.



# COUNTIF

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## Syntax:

- ▶ COUNTIF( range, criteria )
- ▶ **Parameters or Arguments**
  - ▶ **Range:** The range of cells that you want to count based on the criteria.
  - ▶ **Criteria:** The criteria used to determine which cells to count.



# COUNTIFS

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## WHAT IS COUNTIFS?

You can use **COUNTIFS** to count the number of cells that meet *multiple* criteria; for example, to count the customers in a particular city who spend greater than \$1000 per year



# COUNTIFS

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## Syntax:

- ▶ COUNTIFS(criteria\_range1, criteria1, [criteria\_range2, criteria2, ... criteria\_range\_n, criteria\_n] )
  - ▶ **Parameters or Arguments**
    - ▶ **Criteria\_Range1**: The range of cells that you want to apply *criteria1* against.
    - ▶ **Criteria1**: The criteria used to determine which cells to count. *criteria1* is applied against *criteria\_range1*.
    - ▶ **Criteria\_Range\_n**: The range of cells that you want to apply *criteria2, ... criteria\_n* against. There can be up to 127 ranges.
    - ▶ **Criteria\_n**: Used to determine which cells to count. *criteria2* is applied against *criteria\_range2*, *criteria3* is applied against *criteria\_range3*, and so on. There can be up to 127 criteria.
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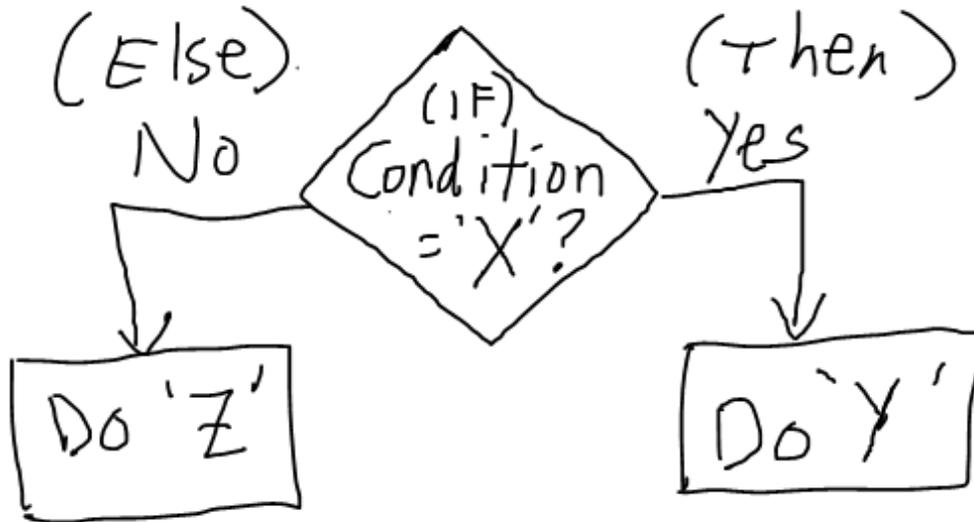


# IF / THEN

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## WHAT IS AN IF STATEMENT?

You can use an **IF** statement to check whether a condition is met, and then return one value if that condition is True and another value if that condition is False.



# IF STATEMENT

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## Syntax:

▶ IF(condition I, value\_if\_true I, value\_if\_false I)

This is the equivalent of an IF THEN ELSE statement.

## ▶ Parameters or Arguments

- ▶ **Condition:** The value that you want to test.
- ▶ **Value\_if\_true:** The value that is returned if *condition* evaluates to TRUE.
- ▶ **Value\_if\_false:** The value that is return if *condition* evaluates to FALSE.

Advanced Tip: You can nest IF statements within each other if you really want to get serious!

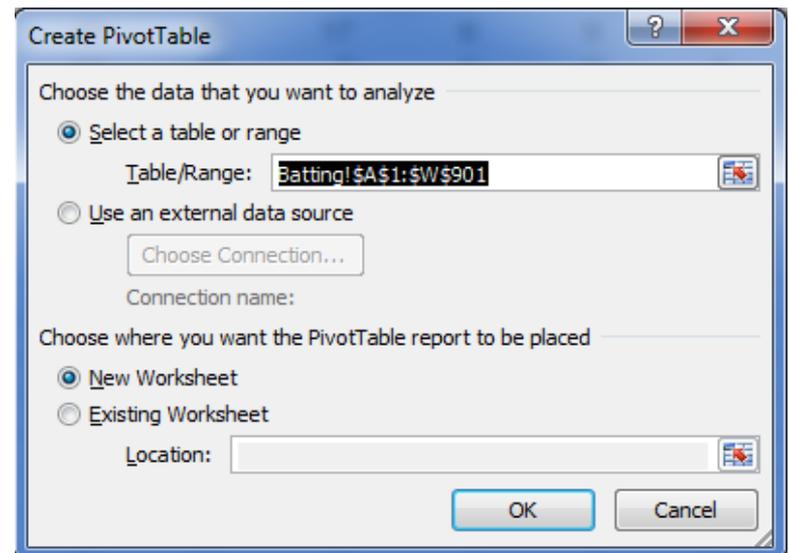
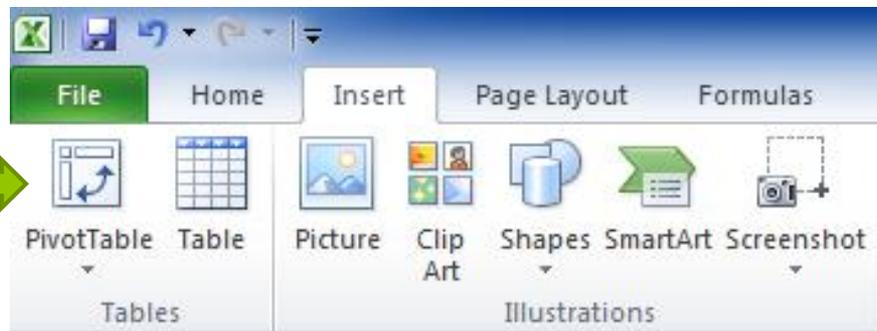


# PIVOT TABLES

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## What is an Excel Pivot Table?

A pivot table is basically a user-created summary table of your original spreadsheet. You create the table by defining which fields to view and how the information should be displayed. Based on your field selections, Excel organizes the data so you see a different view.



# PIVOT CHARTS

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## **What is an Excel Pivot Chart?**

A pivot chart is a visual representation of a pivot table in Excel. Pivot charts are a good way to provide quick visual representation of pivot table data. To insert a pivot chart:

- ▶ Click any cell inside the pivot table.
- ▶ On the Insert tab, click Column and select one of the subtypes. For example, Clustered Column.



# PIVOT TABLES

Row Labels	Batting Average	Sum of HR	Sum of RBI
ARI	0.274444444	110	507
ATL	0.273833333	50	323
BAL	0.25525	168	492
Davis, Chris	0.262	47	117
Hardy, J.J.	0.219	8	37
Jones, Adam	0.269	27	82
Joseph, Caleb	0.234	11	49
Machado, Manny	0.286	35	86
Paredes, Jimmy	0.275	10	42
Pearce, Steve	0.218	15	40
Schoop, Jonathan	0.279	15	39
BOS	0.27	123	524
CHC	0.25875	139	510
CIN	0.263125	138	462
CLE	0.2547	100	474
COL	0.289142857	138	491
CWS	0.25325	105	469
DET	0.2785	133	569
HOU	0.249454545	199	578
KC	0.271222222	121	594
LAA	0.265714286	144	468
LAD	0.260125	133	437
MIA	0.276375	69	386
MIL	0.270111111	119	475
MIN	0.25125	123	501
NYM	0.260857143	102	385
NYY	0.2506	183	629
OAK	0.254777778	108	489
PHI	0.261444444	81	385
PIT	0.273333333	123	540
SD	0.255333333	111	475
SEA	0.255	163	495
SF	0.287625	91	450
STL	0.268285714	103	432
TB	0.253375	96	365
TEX	0.268125	116	533
TOR	0.269333333	197	673
WAS	0.2581	155	559
<b>Grand Total</b>	<b>0.26394902</b>	<b>3741</b>	<b>14670</b>

PivotTable Field List

Choose fields to add to report:

- Player Name
- Team
- Pos
- G
- AB
- R
- H
- 2B
- 3B
- HR
- RBI
- SB
- CS
- BB
- SO
- SH
- SF
- HBP
- AVG
- OBP
- SLG

Drag fields between areas below:

**Report Filter**

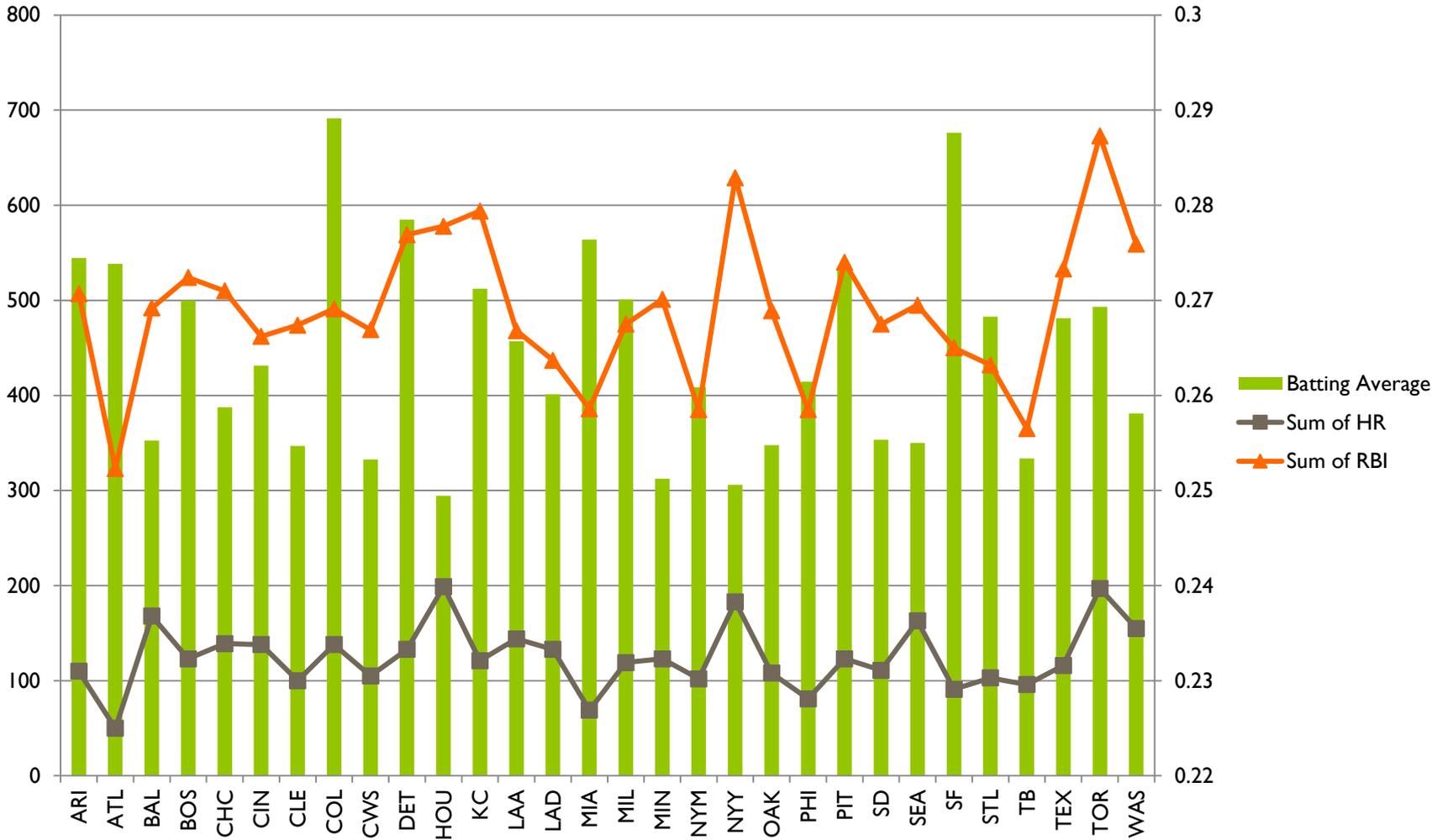
**Column Labels**  
Σ Values

**Row Labels**  
Team  
Player Name

**Σ Values**  
Batting Average  
Home Runs  
RBIs

Defer Layout Update    Update

# PIVOT CHARTS



# WILDCARD SEARCHES

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- ▶ **\* (Asterisk)** – It represents any number of characters. For example, ex\* could mean excel, excels, example, expert, etc.
- ▶ **? (Question mark)** – It represents one single character. For example, T?p could mean Tip , Top, or Tap.
- ▶ **~ (Tilde)** – It is used to identify a wildcard character (~, \*, ?) in the text. For example, if you want to find the exact phrase excel\* in a list.



# NESTING

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- ▶ Nesting can be used when there are multiple conditions to be met.
- ▶ A nested function uses another function as one of the arguments. You can nest up to 64 levels of functions.

- ▶ IF within IF (30/30 Club)

=IF(J2>=30,IF(L2>=30,"YES","NO"),"NO")

- ▶ COUNTIF within IF (Begins with)

=IF(COUNTIF(A2,"G\*"),"YES","NO")

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# QUESTIONS

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