

Excel for Data Analysis I

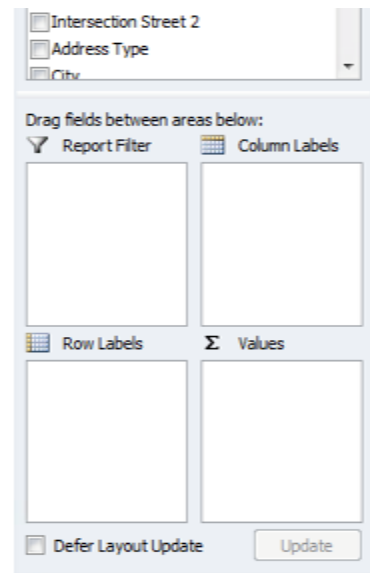
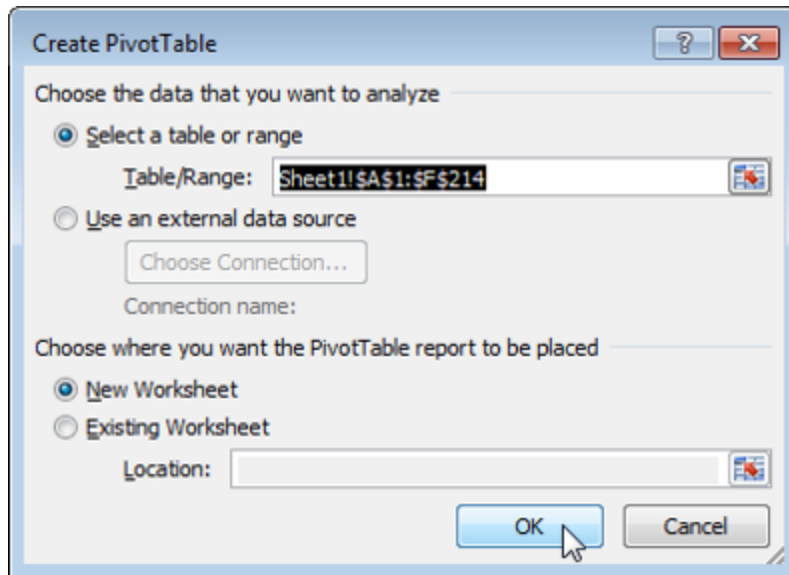
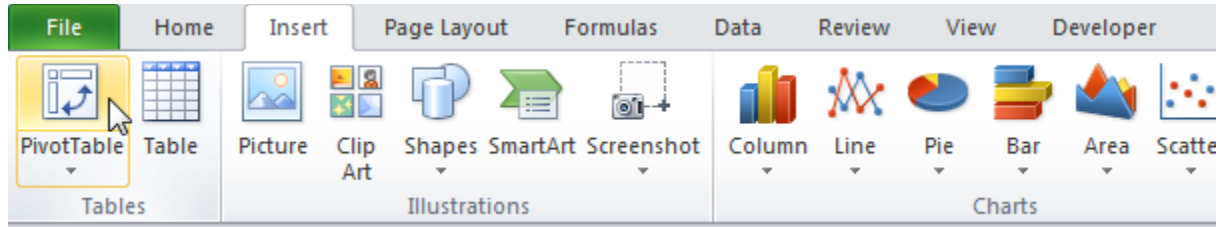
Follow along at: <http://bit.ly/excel-analysis-i>

Key Questions for the Morning

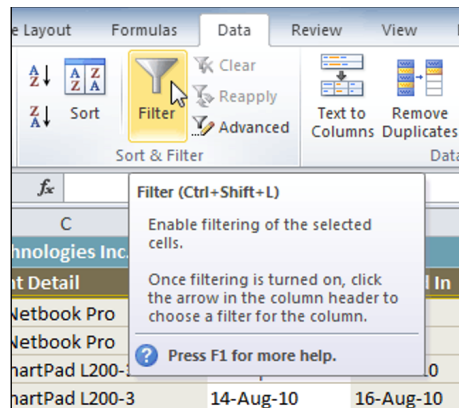
- Benefits of Excel?
- Drawbacks of Excel?
- Keyboard Shortcuts
 - **Ctrl + arrow key** - Go to the end of the text in that direction
 - **Ctrl + c** - Copy the selection to clipboard
 - **Ctrl + v** - Paste clipboard contents to the cell(s)
- The Value of Data
- What is Analysis?

Key Data Tasks

PivotTables

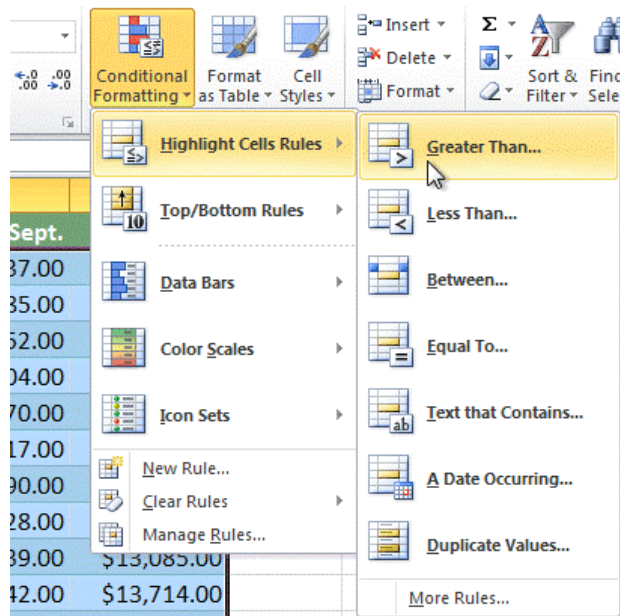


Filtering



	A	B	C	D	E	F
1	Unique Ki	Created Date	Closed Date	Agency Name		Complaint Type

Conditional Formatting



Formulas and Functions

Basic Function Syntax

```
=FUNCTION_NAME(parameter1, parameter2,...)
```

For Example

```
=SUM(A5:A8)
```

- This tells Excel to sum all the values in cells A5, A6, A7, and A8

Useful Functions in Excel

=SUM(): Calculates the sum for a range of numbers

=COUNT(): Counts the number of cells containing numbers in a range

=COUNTA(): Counts the number of non-blank cells in a range

=HOUR(): Extracts the hour from a timestamp

=WEEKDAY(): Extracts the day of the week from a timestamp

=CHOOSE(): Uses an index number to return a result from an ordered list of values

=MID(): Select a specified number of characters from a text string

=LEFT(): Select a specified number of characters from the beginning of a text string

=RIGHT(): Select a specified number of characters from the end of a text string

=FIND(): Find the location of a given character in a text string

=CONCATENATE(): Combine characters together into a text string

=VLOOKUP(): An operation to look up a value in another location based on an index value

=IF(): A function for logical comparison between values to return a desired result given a particular condition

Formulas for Class

- Extract hour from timestamp `=HOUR(B2)`
- Extract day of the week from timestamp `=WEEKDAY(B2)`
- Formula to display the name of the day

```
=CHOOSE(D2,"Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday")
```

- Formula to concatenate Community District and Borough

```
=CONCATENATE(IF(A3<10,"0",""),A3," BRONX")
```

- Formula for VLOOKUP of Community District Population (may need to adjust references)

```
=VLOOKUP(A5,['NYC_Population_1970-2010.xlsx]A'!$B$1:$H$81,7,FALSE)
```

Resources

- NYC Population 1970-2010 - <https://www1.nyc.gov/site/planning/data-maps/nyc-population/census-2010.page>
- 311 Noise Complaint data - <https://data.cityofnewyork.us/>
- Microsoft Excel keyboard shortcuts - <https://support.office.com/en-us/article/keyboard-shortcuts-in-excel-for-windows-1798d9d5-842a-42b8-9c99-9b7213f0040f>
- 7 essential Excel tricks every office worker needs to know - <https://www.microsofttraining.net/sharing/11-seven-essential-excel-tricks-every-office-worker-needs-to-know.html>
- 11 Places That Can Turn You Into A Microsoft Excel Power User - <https://medium.com/the-mission/eleven-places-that-can-turn-you-into-a-microsoft-excel-power-user-c119f18e138c>
- Data Sensemaking- <http://felinlovewithdata.com/teaching/developing-a-data-sensemaking-course> by Enrico Bertini
- Datapolitan training classes <http://training.datapolitan.com/>

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Your Notes

Implementation Guide

Concept/Technique	Why It's Important	How I Can Use It
The Value of Data		
What is Analysis?		
Aggregating Data		
Sorting Data		
Filtering Data		
Manipulating Data		
Visualizing Data		
Functions in Excel		
Types of Charts		