TABLEAU

DATA ANALYSIS CAN BE BORING

- Searching for/obtaining data
- Cleaning the data, you must make it "workable"
- Analyzing & finding your answers
- Trying to explain to people who don't understand what you've found

YOU HAVE TO MAKE IT INTERESTING!

You WANT to be able to tell your STORY!

WHAT IS TABLEAU?

A very powerful data visualization software that helps people view and understand data.

- It makes it easier for people to explore and manage their data.
- It can be a central location for data from several sources
- It will change raw data into data that is easy to understand
- It is growing really fast as a key data analytics platform.
- There's a HUGE community of Tableau users
- No coding necessary

POSSIBLE JOB TITLES

- Business Analyst
- BI Engineer
- Data Analyst
- BI Analyst
- BI Developer

- Verizon
- Lenovo
- Chipotle
- REI
- Charles Schwab

AS A DATA ANALYST

- You are required to manipulate the data in a tabular and systematic form to help solve some challenges that your company might be facing.

- Business analytics, the importance of data visualization and how to utilize Tableau.

BUSINESS INTELLIGENCE

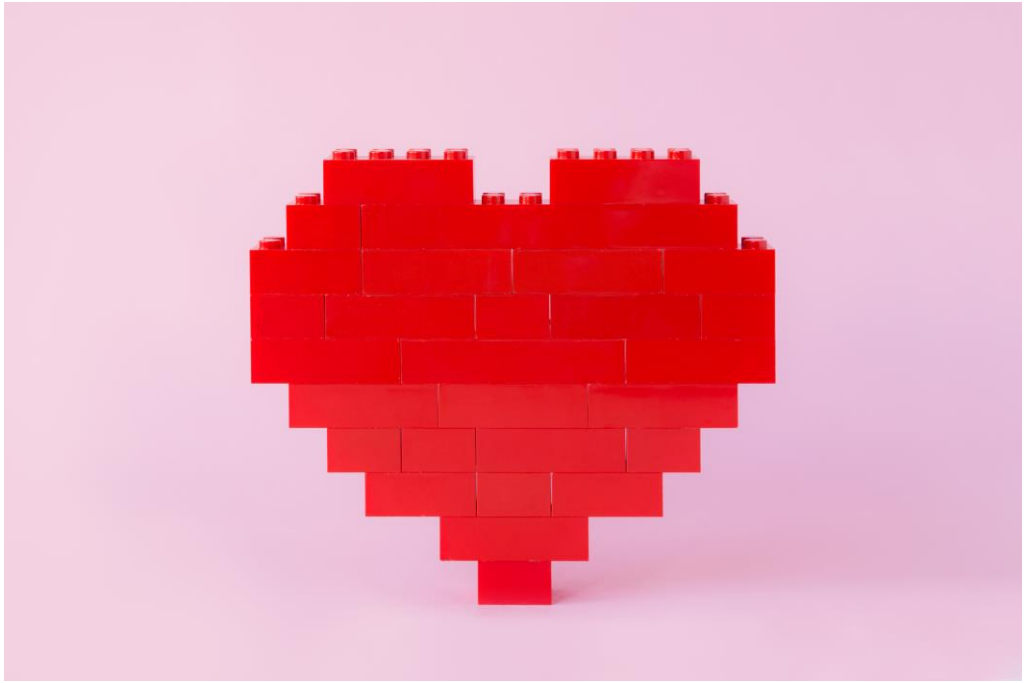
The right information to the right people at the right time to aid in better decision making.

- Business Analytics
- Data mining
- Data visualization
- Data tools
- Infrastructure

EXAMPLES

- Identify ways to increase profit
- Track performance
- Analyze customer behavior
- Compare data with competitors
- Discover issues or problems
- Optimize operations
- Recognize trends
- Predict range of successes

DATA VISUALIZATION



- Uses pictures to represent data
- Most effective way to communicate
- LOTS of tools available
- Allows for quantitative data to be viewed easier & better decisions made quickly

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8006.52 JPY C +9192.42
9072.84 AUD F +1437.42
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7805.51 GBP S +8595.32
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EUR F +7210.69

feb mar apr may jun jul aug sep oct nov dec
125,058
125,487
124,000
105,450
86,502
154,568
56,845
110,000
150,000
35,000
83,000
95,054
97,511
99,011
99,216
101,090
101,684
101,962
102,747
124,500
125,000
154,000
95,000
154,200
110,000
89,000
50,000
68,700
123,000

WITH TABLEAU

- Can utilize data in various forms (except for Tableau Public)
- No technical or programming experience required
- You can data blend (connect multiple sources for one analysis using joins)
- Analyze in real-time
- Collaborate with other team members

Advantages

- Scripting language
- Data Visualization
- Quick Insights
- Large amounts of data
- Easy Implementation
- Responsive Dashboard

Disadvantages

- Restrictive Imports
- Custom Formatting
- Static Parameter
- Screen Resolution
- Scheduling Reports

Tableau Public

Can load from 9 different data sources

Tableau Desktop

Can load from 77 different data sources

OPENING TABLEAU PUBLIC

- Connect Pane: where various data sources can be connected

- Open Pane: where you can see recently opened files/sample dashboards

- Discover Pane: helps you connect with the Tableau Community and access videos and blogs.

CLICK ON MICROSOFT EXCEL
OPEN SAMPLE – SUPERSTORE

CLICK/DRAG “ORDERS” OVER TO THE WHITE AREA ON THE RIGHT

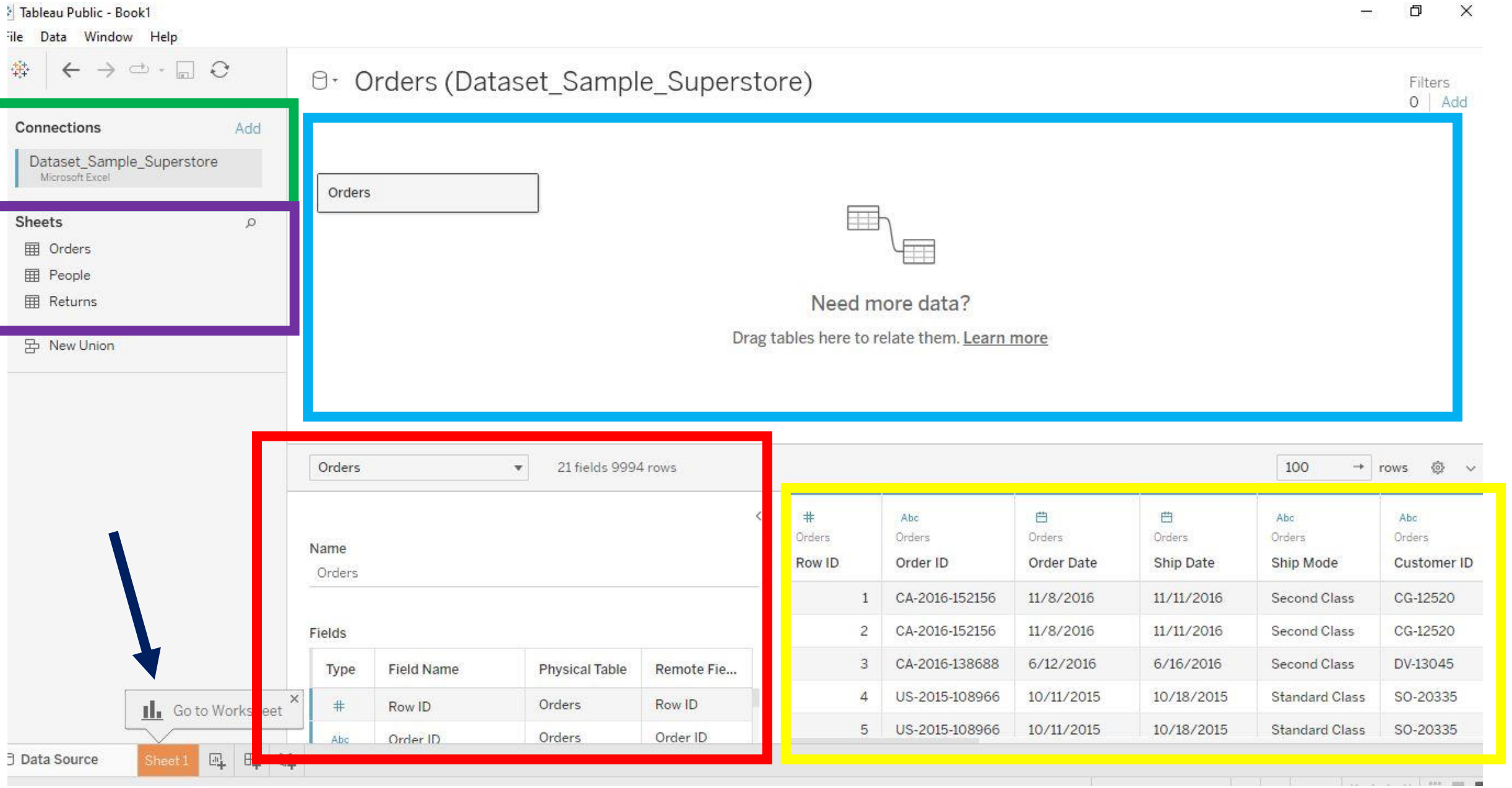
Tableau Public - Book1
File Data Window Help
Orders (Dataset_Sample_Superstore)
Filters
0 Add
Connections Add
Dataset_Sample_Superstore
Microsoft Excel
Sheets
Orders
People
Returns
New Union
Orders
Need more data?
Drag tables here to relate them. Learn more
Orders
21 fields 9994 rows
100 rows
Name
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Fields
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Row ID Orders Row ID
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Go to Worksheet
Data Source
Sheet 1
Row ID Order ID Order Date Ship Date Ship Mode Customer ID
1 CA-2016-152156 11/8/2016 11/11/2016 Second Class CG-12520
2 CA-2016-152156 11/8/2016 11/11/2016 Second Class CG-12520
3 CA-2016-138688 6/12/2016 6/16/2016 Second Class DV-13045
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5 US-2015-108966 10/11/2015 10/18/2015 Standard Class SO-20335

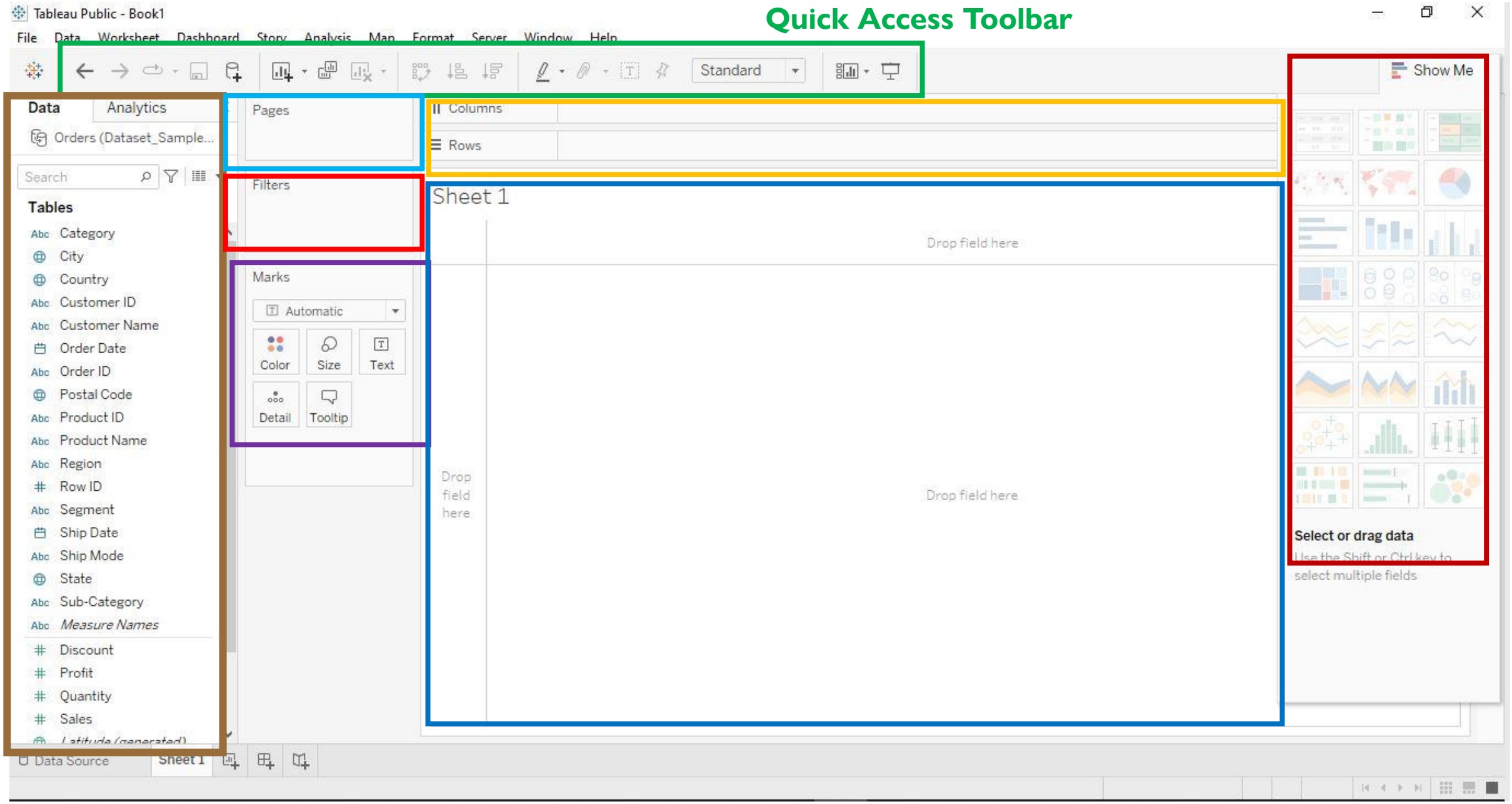
Quick Access Toolbar
Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Standard
Show Me
Data
Analytics
Orders (Dataset_Sample...
Search
Tables
Abc Category
City
Country
Abc Customer ID
Abc Customer Name
Order Date
Abc Order ID
Postal Code
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
Ship Date
Abc Ship Mode
State
Abc Sub-Category
Abc Measure Names
Discount
Profit
Quantity
Sales
Pages
Filters
Marks
Automatic
Color
Size
Text
Detail
Tooltip
Columns
Rows
Sheet 1
Drop field here
Drop field here
Drop field here
Select or drag data
Use the Shift or Ctrl key to select multiple fields
Data Source
Sheet 1
DATA PANE

TABLEAU BREAKDOWN

- Each graph should require a **NEW** *worksheet* & make sure they are named properly
- Dashboards are preps for your STORY (aka presentation)
- Think of each Dashboard as a "slide" where you put your STORY together. Make sure to name them properly
- Your STORY is your presentation of how you want to show your Dashboards (aka slides)

LET'S PRACTICE

- Plot SALES against CATEGORY, SEGMENT & ORDER DATE
- Make it a line graph
- Filter down to Home Office for each segment
- Delete top title
- Make it a bar graph
- Rename it "Home Office Sales"

8 TOOLS TO PREPARE DATA FOR ANALYSIS

1. Joins
2. Relationships
3. Unions
4. Data Blending
5. Aggregations
6. Pivot
7. Data Interpreter
8. Split

JOINS

Combine data in order to filter and get rid of duplicates

- Left Join
- Right Join
- Inner Join
- Full Outer Join

- Connect to the Sample-Superstore dataset
- Move “Orders” over to the canvas
- Right-click on “Orders” and click Open
- Move “Returns” over to the canvas
    - This creates an inner join BY DEFAULT
- Select the correct join

- Tableau will identify the primary key for joining two or more data sets together
- Left Join: values from LEFT Table & match to RIGHT Table
- Right Join: values from RIGHT Table & match to LEFT Table
- Inner Join: includes common data present in BOTH datasets
- Full Outer Join: includes ALL values from both tables.

RELATIONSHIPS

- Created when you drag more than one sheet over
- Think of it as a contract between two tables
- No joining
- Automatic & context aware
- Flexible

JOINS VERSUS RELATIONSHIPS

UNIONS

Helps bring together data from multiple small files into one large one.

- Connect to dataset
- Drag over needed sheet
- Drag over another to overlap (you'll see "union")
- Overlapping icon

DATA BLENDING

- Tableau combines related data from multiple sources in a single view

- Connect two sources (Superstore & Global Superstore)
- Click on Data table & “Edit Blend Relationships”
- Choose “Segment” and “OK”
- Drag “Profit” from both sets over to Columns
- Drag “Segment” from Global Superstore over to Rows

BLEND

- Used to combine data from different databases that don't support joins
- Data w/in databases are at different levels of detail
- Joins = duplicate rows
- Involves large amount of data

JOIN

- Data format is consistent across ALL sources
- Involves small amounts of data
- Data is at the same level of detail across sources