

# DATA INTERPRETER

In the ideal scenario we would want to start building our views and dashboards etc. right after connecting to our Excel spreadsheets. However, in the real-world practical applications it is not a simple step.

To make the spreadsheets in a more human readable format we might have added titles, stacked headers, notes, maybe empty rows and columns to add white space (to name a few additions).

Unfortunately, when we want to proceed with analyzing this type of data, these attributes that were added for aesthetic appeal will make it very tough for Tableau to understand the data. This is where the **Data Interpreter** comes to the rescue.

## DATA INTERPRETER

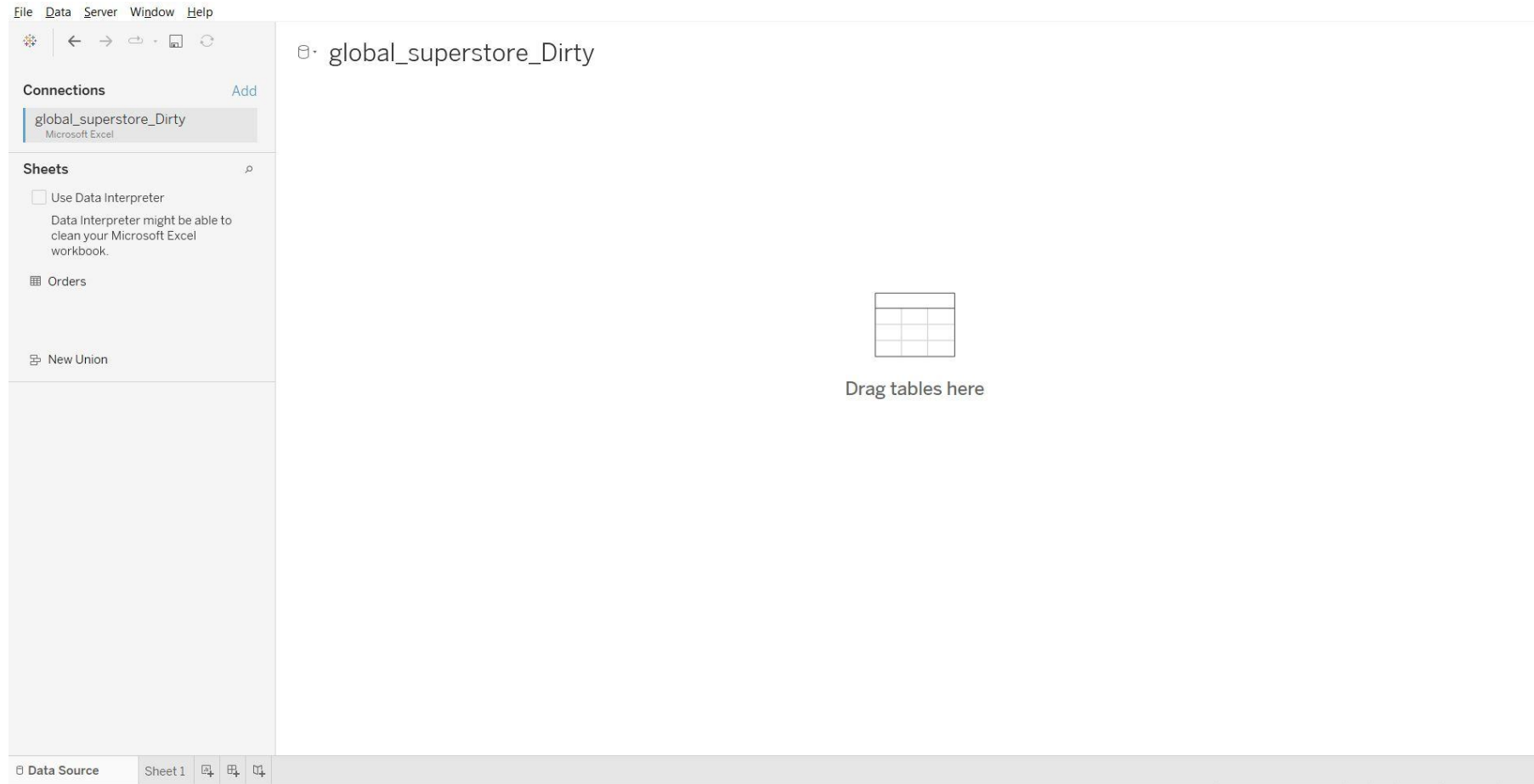
**Data Interpreter** can help in performing some initial level of cleaning before starting the actual analysis process. This feature can detect things like titles, notes, footers, empty cells, and so on and bypass them to identify the actual fields and values in the data set.

It can even detect additional tables and sub-tables so that we can work with a subset of the data independently of the other data.

Once the cleaning is done by **Data Interpreter**, we can check the updates done to the data source by using the **Review the results** hyperlink. After reviewing the changes done if required, we can carry out any required adjustments.

# DATA INTERPRETER

**STEP 1:** From the **Start Page** of Tableau make use of the **Connect** pane to connect to an Excel spreadsheet or any other connector that supports the **Data Interpreter** option such as Text (.csv) files, PDF files or Google sheets



# DATA INTERPRETER

**STEP 2:** Drag and drop the table e.g., **Orders** to the canvas

We can see that the Column Headers for the Fields are shown as F1, F2,...etc.

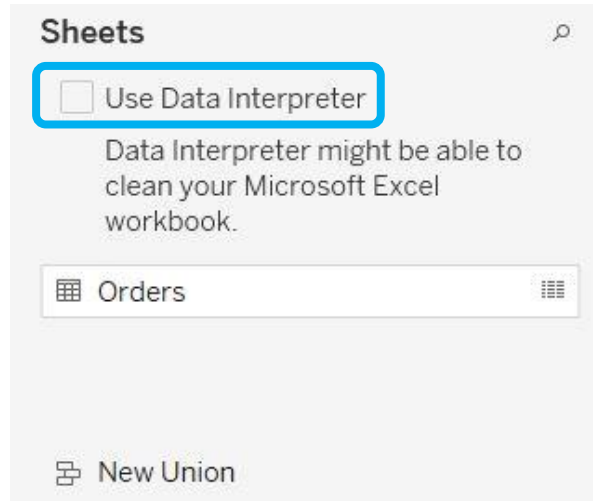
There are also several NULL values present in the **Data Grid**

The screenshot displays the Data Interpreter application interface. On the left sidebar, under 'Connections', 'global\_superstore\_Dirty' (Microsoft Excel) is selected. Under 'Sheets', 'Orders' is listed. The main canvas shows 'Orders (global\_superstore\_Dirty)' with a 'Live' connection and 0 filters. A table icon is present with the text 'Need more data? Drag tables here to relate them. [Learn more](#)'. At the bottom, a data grid for the 'Orders' table is shown, containing 25 fields and 51293 rows. The grid has 11 columns labeled F1 through F11. The first three rows are null. The subsequent rows contain order data, including Order ID, Ship Mode, Customer ID, Customer Name, Segment, Postal Code, and City.

#	Orders	Orders	Orders	Orders	Orders	Orders	Orders	Orders	Orders	Orders	#
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	
null	null	null	null	null	null	null	null	null	null	nt	
null	null	null	null	null	null	null	null	null	null	nt	
null	Order ID	null	null	Ship Mode	Customer ID	Customer Name	Segment	Postal Code	City	nt	
40,098	CA-2014-AB10015140-41954	11-11-2014	13-11-2014	First Class	AB-100151402	Aaron Bergman	Consumer	73120	Oklahoma City	nt	
26,341	IN-2014-JR162107-41675	05-02-2014	07-02-2014	Second Class	JR-162107	Justin Ritter	Corporate	null	Wollongong	nt	
25,330	IN-2014-CR127307-41929	17-10-2014	18-10-2014	First Class	CR-127307	Craig Reiter	Consumer	null	Brisbane	nt	
13,524	ES-2014-KM1637548-41667	28-01-2014	30-01-2014	First Class	KM-1637548	Katherine Murray	Home Office	null	Berlin	nt	
47,221	SG-2014-RH9495111-41948	05-11-2014	06-11-2014	Same Day	RH-9495111	Rick Hansen	Consumer	null	Dakar	nt	
22,732	IN-2014-JM156557-41818	28-06-2014	01-07-2014	Second Class	JM-156557	Jim Mitchum	Corporate	null	Sydney	nt	
30,570	IN-2012-TS2134092-41219	06-11-2012	08-11-2012	First Class	TS-2134092	Toby Swindell	Consumer	null	Porirua	nt	

# DATA INTERPRETER

**STEP 3:** In the **Data Source Page**, Select the **Use Data Interpreter** checkbox



**Sheets** 🔍

☐ Use Data Interpreter

Data Interpreter might be able to clean your Microsoft Excel workbook.

📊 Orders ⋮

📁 New Union

# DATA INTERPRETER

**STEP 4:** It might take some time for Tableau to execute this query depending on the size of the data. After this we can see the correct column names

FileDataServerWindowHelp

Connections

global\_superstore\_Dirty  
Microsoft Excel

Sheets

☒ Cleaned with Data Interpreter

[Review the results.](#) (To undo changes, clear the check box.)

Orders

Orders A8:Y10000


New Union

Orders (global\_superstore\_Dirty)

Connection  
☒ Live ☐ Extract

Filters  
0 | [Add](#)

Orders



Need more data?  
Drag tables here to relate them. [Learn more](#)

Orders

24 fields 51290 rows

100 → rows

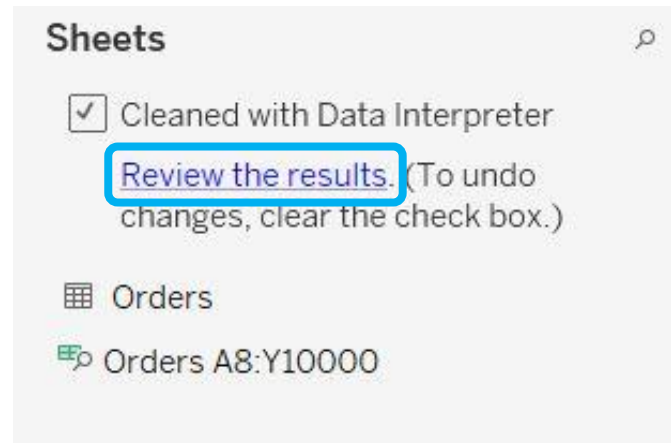
Table Details

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Postal Code	City
40,098	CA-2014-AB10015140-41954	11-11-2014	13-11-2014	First Class	AB-100151402	Aaron Bergman	Consumer	73120	Oklahoma City
26,341	IN-2014-JR162107-41675	05-02-2014	07-02-2014	Second Class	JR-162107	Justin Ritter	Corporate	null	Wollongong
25,330	IN-2014-CR127307-41929	17-10-2014	18-10-2014	First Class	CR-127307	Craig Reiter	Consumer	null	Brisbane
13,524	ES-2014-KM1637548-41667	28-01-2014	30-01-2014	First Class	KM-1637548	Katherine Murray	Home Office	null	Berlin
47,221	SG-2014-RH9495111-41948	05-11-2014	06-11-2014	Same Day	RH-9495111	Rick Hansen	Consumer	null	Dakar
22,732	IN-2014-JM156557-41818	28-06-2014	01-07-2014	Second Class	JM-156557	Jim Mitchum	Corporate	null	Sydney
30,570	IN-2012-TS2134092-41219	06-11-2012	08-11-2012	First Class	TS-2134092	Toby Swindell	Consumer	null	Porirua
31,192	IN-2013-MB1808592-41378	14-04-2013	18-04-2013	Standard Class	MB-1808592	Mick Brown	Consumer	null	Hamilton
40,099	CA-2014-AB10015140-41954	11-11-2014	13-11-2014	First Class	AB-100151402	Aaron Bergman	Consumer	73120	Oklahoma City
36,258	CA-2012-AB10015140-40974	06-03-2012	07-03-2012	First Class	AB-100151404	Aaron Bergman	Consumer	98103	Seattle

Data SourceSheet1

# DATA INTERPRETER

**STEP 5:** Click the **Review the results** hyperlink to review the results of the **Data Interpreter**



# DATA INTERPRETER

**STEP 6:** A copy of the data source opens in Excel on the **Key for the Data Interpreter** tab.

We can review the key to find out how to read the results

**NOTE:** This example has only one table hence actual number of tab may differ based on the actual number of tables in the actual data source that is used

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2			Key for Understanding the Data Interpreter Results										
3													
4													
5			Use the key to understand how your data source has been interpreted.										
6			To view the results, click a worksheet tab.										
7			Note: Tableau never makes changes to your underlying data source.										
8													
9													
10													
11			Key:										
12				Data is interpreted as column headers (field names).									
13				Data is interpreted as values in your data source.									
14				Data derived from an Excel merged cell is interpreted as value in your data source.									
15				Data is ignored and not included as part of your data source.									
16				Data has been excluded from your data source.									
17			Note: To search for all excluded data, use CTRL +F on Windows										
18			or Command F on the Mac, and then type '***DATA REMOVED***'.										
19													
20													
21			If the Data Interpreter has interpreted the Tableau data source incorrectly, close the spreadsheet,										
22			and then clear the Cleaned with Data Interpreter check box from the Data Source page.										
23			If the Tableau data source continues to be interpreted incorrectly or for general information										
24			about why some data was removed by the Data Interpreter, refer to										
25			<a href="#">Resolving Common Issues with Data Interpreter Results</a>										
26			Help Tableau improve the Data Interpreter by emailing your file to support@tableau.com										
27			or filing a support request with an attached file at:										
28													



# DATA INTERPRETER

**STEP 7:** We can check the actual data in the **Orders** tab

Cells in Red Color are interpreted as **Column Headers**

Cells in Green Color are interpreted as **Values** of the Data Source

Cells in White are removed

**NOTE:** This example has only one table hence actual number of tab may differ based on the actual number of tables in the actual data source that is used

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W				
1			This is a data set of the Global Superstore																								
2			Date: 01-01-2022																								
3			Time: 15:25																								
4																											
5																											
6																											
7																											
8	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Segment	Postal Code	City	State	Country	Region	Market	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit						
9	40098	CA-2014-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	73120	Oklahoma City	Oklahoma	United States	Central US	USCA	TEC-PH-58	Technology	Phones	Samsung C	\$221.98	2	0	\$62.15						
10	26341	IN-2014-JF	#####	#####	Second Class	JR-162107	Justin Rittner Corporate		Wollongong	New South Australia	Oceania	Asia Pacific	FUR-CH-5	Furniture	Chairs	Novimex E	\$3,709.40	9	0.1	-\$288.77							
11	25330	IN-2014-C	#####	#####	First Class	CR-127307	Craig Reite Consumer		Brisbane	Queensland Australia	Oceania	Asia Pacific	TEC-PH-53	Technology	Phones	Nokia Smartphone	\$5,175.17	9	0.1	\$919.97							
12	13524	ES-2014-K	#####	#####	First Class	KM-16375	Katherine Miller Home Office		Berlin	Berlin Germany	Western Europe	TEC-PH-52	Technology	Phones	Motorola		\$2,892.51	5	0.1	-\$96.54							
13	47221	SG-2014-R	#####	#####	Same Day	RH-94951	Rick Hansson Consumer		Dakar	Dakar Senegal	Western Africa	TEC-CO-6C	Technology	Copiers	Sharp	Wire	\$2,832.96	8	0	\$311.52							
14	22732	IN-2014-JF	#####	#####	Second Class	JM-15655	Jim Mitchell Corporate		Sydney	New South Australia	Oceania	Asia Pacific	TEC-PH-58	Technology	Phones	Samsung S	\$2,862.68	5	0.1	\$763.28							
15	30570	IN-2012-T	#####	#####	First Class	TS-213409	Toby Swinburn Consumer		Porirua	Wellington New Zealand	Oceania	Asia Pacific	FUR-CH-5	Furniture	Chairs	Novimex E	\$1,822.08	4	0	\$564.84							
16	31192	IN-2013-N	#####	#####	Standard Class	MB-18085	Mick Brown Consumer		Hamilton	Waikato New Zealand	Oceania	Asia Pacific	FUR-TA-37	Furniture	Tables	Chromcraft	\$5,244.84	6	0	\$996.48							
17	40099	CA-2014-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	73120	Oklahoma City	Oklahoma	United States	Central US	USCA	FUR-BO-5	Furniture	Bookcases	Sauder Furniture	\$341.96	2	0	\$54.71						
18	36258	CA-2012-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	98103	Seattle	Washington	United States	Western US	USCA	FUR-CH-4	Furniture	Chairs	Global Post	\$48.71	1	0.2	\$5.48						
19	36259	CA-2012-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	98103	Seattle	Washington	United States	Western US	USCA	OFF-AR-53	Office Supplies	Art	Newell 33	\$17.94	3	0	\$4.66						
20	28879	ID-2013-A	#####	#####	First Class	AJ-107801	Anthony J. Corporate		Kabul	Kabul Afghanistan	Southern Asia	Asia Pacific	FUR-TA-34	Furniture	Tables	Bevis Conf	\$4,626.15	5	0	\$647.55							
21	45794	SA-2012-N	#####	#####	Second Class	MM-7260	Magdalen Consumer		Jizan	Jizan Saudi Arabia	Western Asia	Asia Pacific	TEC-PH-38	Technology	Phones	Cisco Smartphone	\$2,616.96	4	0	\$1,151.40							
22	4132	MX-2013-V	#####	#####	Same Day	VF-217151	Vicky Frey Home Office		Toledo	Parana Brazil	South America	LATAM	FUR-CH-4	Furniture	Chairs	Harbour City	\$2,221.80	7	0	\$622.02							
23	27704	IN-2014-P	#####	#####	Second Class	PF-191202	Peter Fulle Consumer		Mudanjiang	Heilongjiang China	Eastern Asia	Asia Pacific	OFF-AP-49	Office Supplies	Appliances	KitchenAid	\$3,701.52	12	0	\$1,036.08							
24	13779	ES-2015-B	#####	#####	Second Class	BP-111854	Ben Peterson Corporate		Paris	Ile-de-France France	Western Europe	OFF-AP-35	Office Supplies	Appliances	Breville Re	\$1,869.59	4	0.1	\$186.95								
25	39519	CA-2012-A	#####	#####	Standard Class	AB-100151	Aaron Berj Consumer	76017	Arlington	Texas	United States	Central US	USCA	OFF-ST-30	Office Supplies	Storage	Akro Stack	\$12.62	2	0.2	-\$2.52						
26	12069	ES-2015-P	#####	#####	Standard Class	PJ-188356	Patrick Jorj Corporate		Prato	Tuscany Italy	Southern Europe	OFF-AP-47	Office Supplies	Appliances	Hoover Str	\$7,958.58	14	0	\$3,979.08								
27	22096	IN-2015-JS	#####	#####	First Class	JS-156857	Jim Sink Corporate		Townsville	Queensland Australia	Oceania	Asia Pacific	TEC-CO-3C	Technology	Copiers	Brother Fa	\$2,565.59	9	0.1	\$28.40							
28	49463	TZ-2015-R	#####	#####	Second Class	RH-95551	Ritsa Hight Consumer		Uvinza	Kigoma Tanzania	Eastern Africa	OFF-AP-49	Office Supplies	Appliances	KitchenAid	\$3,409.74	6	0	\$818.28								
29	46630	PL-2013-A	#####	#####	First Class	AB-60010	Ann Blume Corporate		Bytom	Silesia Poland	Eastern Europe	FUR-TA-4C	Furniture	Tables	Hon Comp	\$1,977.72	4	0	\$276.84								
Key for the Data Interpreter																							Orders	Orders_subtables	A0000000008_Y0000010000		



# DATA INTERPRETER

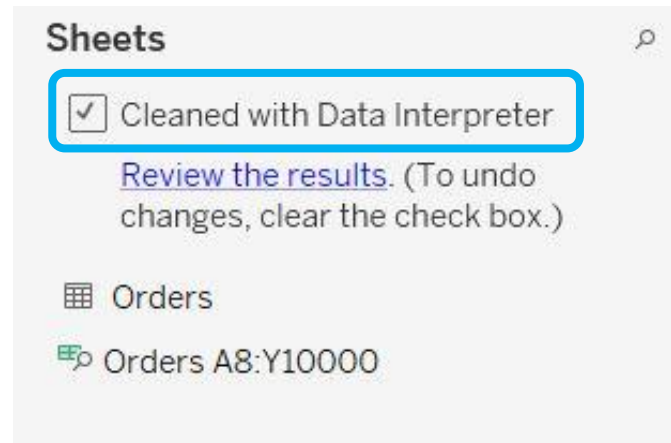
**STEP 8:** The last tab will contain the actual data that is finally brought into Tableau Data Grid

**NOTE:** This example has only one table hence actual number of tab may differ based on the actual number of tables in the actual data source that is used

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
1	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Segment	Postal Code	City	State	Country	Region	Market	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit	Ship Date		
2	40098	CA-2014-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	73120	Oklahoma City	Oklahoma	United States	Central US	USCA	TEC-PH-58	Technology	Phones	Samsung C	\$221.98	2	0	\$62.15			
3	26341	IN-2014-JF	#####	#####	Second Class	JR-162107	Justin Ritts Corporate		Wollongong	New South Wales	Australia	Oceania	Asia Pacific	FUR-CH-5	Furniture	Chairs	Novimex E	\$3,709.40	9	0.1	-\$288.77			
4	25330	IN-2014-C	#####	#####	First Class	CR-12730	Craig Reite Consumer		Brisbane	Queensland	Australia	Oceania	Asia Pacific	TEC-PH-53	Technology	Phones	Nokia Sma	\$5,175.17	9	0.1	\$919.97			
5	13524	ES-2014-K	#####	#####	First Class	KM-16375	Katherine I Home Office		Berlin	Berlin	Germany	Western Europe	TEC-PH-52	Technology	Phones	Motorola	\$2,892.51	5	0.1	-\$96.54				
6	47221	SG-2014-R	#####	#####	Same Day	RH-94951	Rick Hansen Consumer		Dakar	Dakar	Senegal	Western Africa	TEC-CO-6	Technology	Copiers	Sharp Wire	\$2,832.96	8	0	\$311.52				
7	22732	IN-2014-JI	#####	#####	Second Class	JM-15655	Jim Mitchell Corporate		Sydney	New South Wales	Australia	Oceania	Asia Pacific	TEC-PH-58	Technology	Phones	Samsung S	\$2,862.68	5	0.1	\$763.28			
8	30570	IN-2012-T	#####	#####	First Class	TS-213409	Toby Swinburn Consumer		Porirua	Wellington	New Zealand	Oceania	Asia Pacific	FUR-CH-5	Furniture	Chairs	Novimex E	\$1,822.08	4	0	\$564.84			
9	31192	IN-2013-N	#####	#####	Standard Class	MB-18085	Mick Brown Consumer		Hamilton	Waikato	New Zealand	Oceania	Asia Pacific	FUR-TA-37	Furniture	Tables	Chromcraft	\$5,244.84	6	0	\$996.48			
10	40099	CA-2014-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	73120	Oklahoma City	Oklahoma	United States	Central US	USCA	FUR-BO-5	Furniture	Bookcases	Sauder Furniture	\$341.96	2	0	\$54.71			
11	36258	CA-2012-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	98103	Seattle	Washington	United States	Western US	USCA	FUR-CH-4	Furniture	Chairs	Global Plus	\$48.71	1	0.2	\$5.48			
12	36259	CA-2012-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	98103	Seattle	Washington	United States	Western US	USCA	OFF-AR-53	Office Supplies	Sup Art	Newell 33i	\$17.94	3	0	\$4.66			
13	28879	ID-2013-A	#####	#####	First Class	AJ-107801	Anthony J. Corporate		Kabul	Kabul	Afghanistan	Southern Asia	Asia Pacific	FUR-TA-34	Furniture	Tables	Bevis Conf	\$4,626.15	5	0	\$647.55			
14	45794	SA-2012-N	#####	#####	Second Class	MM-7260	Magdalena Consumer		Jizan	Jizan	Saudi Arabia	Western Asia	Asia Pacific	TEC-PH-38	Technology	Phones	Cisco Small	\$2,616.96	4	0	\$1,151.40			
15	4132	MX-2013-N	#####	#####	Same Day	VF-217151	Vicky Frey Home Office		Toledo	Parana	Brazil	South America	LATAM	FUR-CH-4	Furniture	Chairs	Harbour City	\$2,221.80	7	0	\$622.02			
16	27704	IN-2014-P	#####	#####	Second Class	PF-191202	Peter Fulle Consumer		Mudanjiang	Heilongjiang	China	Eastern Asia	Asia Pacific	OFF-AP-49	Office Supplies	Appliances	KitchenAid	\$3,701.52	12	0	\$1,036.08			
17	13779	ES-2015-B	#####	#####	Second Class	BP-111854	Ben Peterr Corporate		Paris	Ile-de-Fr	France	Western Europe	OFF-AP-35	Office Supplies	Appliances	Breville Re	\$1,869.59	4	0.1	\$186.95				
18	39519	CA-2012-A	#####	#####	Standard Class	AB-100151	Aaron Berj Consumer	76017	Arlington	Texas	United States	Central US	USCA	OFF-ST-30	Office Supplies	Storage	Akro Stack	\$12.62	2	0.2	-\$2.52			
19	12069	ES-2015-P	#####	#####	Standard Class	PJ-188356	Patrick Jor Corporate		Prato	Tuscany	Italy	Southern Europe	OFF-AP-47	Office Supplies	Appliances	Hoover Str	\$7,958.58	14	0	\$3,979.08				
20	22096	IN-2015-JS	#####	#####	First Class	JS-156857	Jim Sink Corporate		Townsville	Queensland	Australia	Oceania	Asia Pacific	TEC-CO-3	Technology	Copiers	Brother Fa	\$2,565.59	9	0.1	\$28.40			
21	49463	TZ-2015-R	#####	#####	Second Class	RH-95551	Ritsa Hight Consumer		Uvinza	Kigoma	Tanzania	Eastern Africa	OFF-AP-49	Office Supplies	Appliances	KitchenAid	\$3,409.74	6	0	\$818.28				
22	46630	PL-2013-A	#####	#####	First Class	AB-60010	Ann Blume Corporate		Bytom	Silesia	Poland	Eastern Europe	FUR-TA-4	Furniture	Tables	Hon Comp	\$1,977.72	4	0	\$276.84				
23	36260	CA-2012-A	#####	#####	First Class	AB-100151	Aaron Berj Consumer	98103	Seattle	Washington	United States	Western US	USCA	OFF-ST-37	Office Supplies	Storage	Carina 42"	\$242.94	3	0	\$4.86			
24	21586	IN-2012-J	#####	#####	First Class	JK-153252	Jason Klan Corporate		Suzhou	Anhui	China	Eastern Asia	Asia Pacific	FUR-CH-5	Furniture	Chairs	SAFCO Exe	\$2,754.00	6	0	\$358.02			
25	13528	ES-2014-LI	#####	#####	Second Class	LB-167951	Laurel Belt Home Office		Edinburgh	Scotland	United Kingdom	Northern Europe	OFF-AP-49	Office Supplies	Appliances	KitchenAid	\$5,273.70	10	0	\$1,898.40				
26	1570	US-2015-N	#####	#####	First Class	NP-18325	Naresj Pat Consumer		Juárez	Chihuahua	Mexico	Central America	LATAM	TEC-PH-52	Technology	Phones	Motorola	\$1,713.84	4	0	\$445.52			
27	3484	MX-2015-N	#####	#####	First Class	VD-21670	Valerie Do Consumer		Soyapango	San Salvador	El Salvador	Central America	LATAM	FUR-TA-4	Furniture	Tables	Hon Comp	\$2,106.50	8	0.2	\$526.50			
28	30191	IN-2012-P	#####	#####	First Class	PB-192101	Phillip Brey Corporate		Taipei	Taipei City	Taiwan	Eastern Asia	Asia Pacific	FUR-TA-5	Furniture	Tables	Lesro Conf	\$1,715.16	2	0	\$720.36			
29	11645	ES-2012-E	#####	#####	Second Class	EB-141104	Eugene Ba Consumer		Leipzig	Saxony	Germany	Western Europe	OFF-AP-47	Office Supplies	Appliances	Hoover Str	\$3,069.74	6	0.1	\$1,364.24				

# DATA INTERPRETER

**STEP 9:** If **Data Interpreter** does not provide the expected results, clear the **Cleaned with Data Interpreter** check box to revert to the original data source



# DATA INTERPRETER

The **Data Interpreter option** might not be available for certain cases:

- **The data source is already in a format that Tableau can interpret:** If Tableau Desktop doesn't need additional help from the Data Interpreter to take care of unique formatting etc., the Data Interpreter option itself won't be present
- **More rows or many columns:** More than 2000 columns or more than 3000 rows and more than 150 columns
- **If the data source is not supported:** Data Interpreter is only available for Microsoft Excel, Text (.csv) files, PDF files and Google Sheets