#### Using Power BI

Power BI is a business analytics service by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards. In this exercise using Power BI, you will:

Extract the "Sales Report", "Salesperson Information" and "Comm SalesPerson by Region" data from Excel.

Transform the data into a flat data set in which all the data for a specific sales order is on one row. Aggregate the commission in dollars for each salesperson by region.

Load the transformed data into Excel.

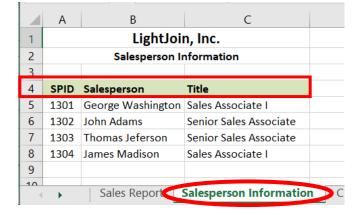
There are three streams of data for *LightJoin, Inc.* stored in an Excel workbook. The first stream, sales information is stored in a sheet titled "**Sales Report**". Notice that the column headings are in the sixth row.

	А	В	С	D	Е					
1	1 LightJoin, Inc.									
2	Sales Report									
3										
4										
5										
6	Sales Order #	Salesperson #	Region	Sales						
1	87082	1301	South	\$119,423	•					
8	87083	1302	East	\$321,989						
9	87084	1304	East	\$155,882						
10	87085	1302	East	\$282,097						
11	87086	1302	North	\$305,319						
12	87087	1301	East	\$111,512						
13	87088	1301	East	\$308,051						
14	87089	1304	North	\$ 96,069						
4	<ul> <li>Introdu</li> </ul>	ictio Sales R	eport alesp	erson Informa	ition					

Notice that the last "Sales Order #" is 87175, and there are 94 rows of data (row 100 - row 6 = 94 rows).

6	Sales Order #	Salesperson #	Region	Sales
97	87172	1302	West	\$154,798
98	87173	1304	North	\$353,819
99	87174	1304	East	\$256,322
100	87175	1303	North	\$ 78,635

The second stream containing data regarding the Salesperson's name and title is stored in a sheet titled "**Salesperson Information**". Notice that the column headings are in the fourth row.



The third stream contains the commission percentage earned by the salesperson by region in which the sales were made. This data is stored in a sheet titled "**Comm SalesPerson by Region**". Notice that the column headings are in the seventh row.

	А	В	С	D	E			
1	LightJoin, Inc.							
2	Commission % by Salesperson by Region							
3								
4								
5								
6								
7	SalesPerson	East	West	North	South			
7 8	SalesPerson 1301	<b>East</b> 4.00	<b>West</b> 4.50	<b>North</b> 5.50	<b>South</b> 6.00			
8	1301	4.00	4.50	5.50	6.00			
8 9	1301 1302	4.00 2.00	4.50 2.50	5.50 3.00	6.00 3.25			
8 9 10	1301 1302 1303	4.00 2.00 3.00	4.50 2.50 3.25	5.50 3.00 3.75	6.00 3.25 4.00			

The deliverable consists of two reports. One is a Commission in Dollars Report by Salesperson and the other a Commission in Dollars Report by Salesperson and Region. Both are to be loaded back into Excel.

	А	В
1	Salesperson	Commission Expense
2	George Harrison	\$90,935.34
3	John Lennon	\$226,149.84
4	Paul McCartney	\$127,193.52
5	Ringo Starr	\$274,189.61
6		

11.

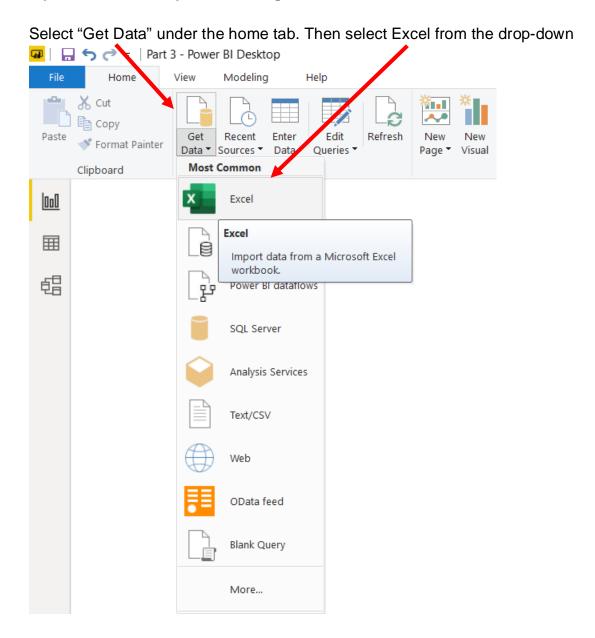
	А	В	С	D	E	F
1	Salesperson	East	North	South	West	Total
2	George Harrison	\$ 17,192.18	\$ 26,615.28	\$ 26,052.39	\$ 21,075.49	\$ 90,935.34
3	John Lennon	84,829.28	29,372.96	82,074.30	29,873.30	226,149.84
4	Paul McCartney	30,874.29	52,700.71	15,502.96	28,115.56	127,193.52
5	Ringo Starr	60,005.82	136,168.64	44,940.09	33,075.06	274,189.61
6	Total	\$192,901.57	\$244,857.59	\$168,569.74	\$112,139.41	\$718,468.31
7						
8						

#### Start Power BI Desktop

There are four major parts to the Power BI tabs: Home, View, Modeling and Help.

#### Operation 1: Get Data

#### Input the "Sales Report" from LightJoin.xlsx Excel data set.



Open				×
← → • ↑ 🖡 «	Tech (E:) > UpW > Power B	I > Mark Friedman > Data 🛛 🗸 じ	Search Data	م
Organize - New f	older		1 1 1	- 🔳 💡
This PC	^ Name	Date modified	Туре	Size
🧊 3D Objects	LightJoin.xlsx	22-02-2020 08:31	Microsoft Exce	el W 57
📃 Desktop	MF8916.xlsx	28-07-2019 12:41	Microsoft Exce	el W 13
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🖶 Downloads				
🎝 Music				
Pictures				
📑 Videos				
👟 OS (C:)				
🧼 DATA (D:)				
🧹 Tech (E:)				
🥪 Shr (S:)	~ <			
File	name: LightJoin.xlsx	~	Excel Files (*.xl;*.xls)	x;*.xlsm;*.xlst ∨
			Open 🔻	Cancel

Select the file *LightJoin.xlsx*.

Select "Open".

Highlight the desired sheet "Sales Report". At this time the "Transform" button is not highlighted.

highlighted.	Navigator							
	Display Options 👻	<b>О</b> В	Sales Report Preview downloaded	on Monday				Ω
	LightJoin.xlsx [3]		LightJoin, Inc.	Column2	Column3	Column4	Column5	
	Important (0)     Important (0)     Important (0)		Sales Report	nul	nuti	null	null	
		_	nul	nul	null	null	null	1
	Sales Report		nul	nul	nul	null	null	
	Salesperson Information		nul	nul	nul	null	null	
			Sales Order #	Salesperson #	Region	Sales	null	
			87082 1301 South 1194				null	
			87083	1302	East	321989	null	
			87084	1304	East	155882	null	
			87085			282097		
lowever, the data previ	iew is displayed.		87086		North	305319		
ienerer, ine data prer			87087			111512		
			87088			308051		
			87085		North	96069		
			87090			163360		
			87091		North	269853		
			87092		North	75460	null	
			87093	1304	East	203018	null	
			87094	1301	West	243896	null	
			87095	1304	West	80307	null	
			\$7096	1302	East	160356	null	
			87097	1304	North	257892	null	
			87098	1303	West	119843	null	
			87099	1204	North	100042	null	

Load Transform Data Cancel

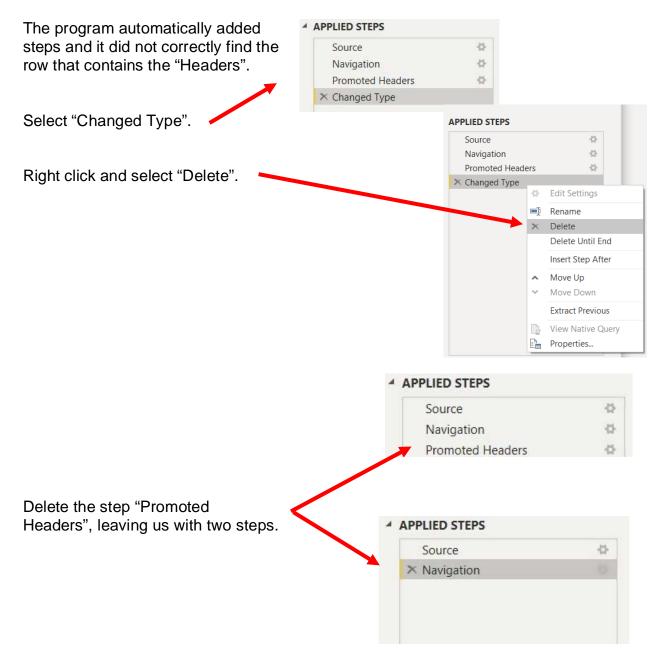
#### Double click on "**Sales Report**" or select the check box to the left of the sheet's name.

	Q	Sales Report					Ľ
Display Options	C.	Preview downloaded	on Monday				-
🔺 📫 Light oin.xlsx [3]		LightJoin, Inc.	Column2	Column3	Column4	Column5	
Comm SalesPerson by Region		Sales Report	null	null	null	null	
Sales Report		null		null	null	null	
		null			null	null	
Salesperson Information		null			null		
		Sales Order #	Salesperson #	Region	Sales	null	
		87082		South	119423	null	
		87083	1302		321989		
		87084	1304		155882	null	
		87085		North	282097 305319	null	
		87080			111512	null	
		87088			308051	null	
		87089		North	96069	null	
		87090			163360		
		87091		North	269853	null	
		87092	1303	North	75460	null	
		87093	1304	East	203018	null	
		87094	1301	West	243896	null	
		87095	1304	West	80307	null	
		87096	1302	East	160356	null	
		87097	1304	North	257892	null	
		87098	1303	West	119843	null	
		87099	1304	North	100042	null	

Select "Transform Data" and the "Power Query Editor" opens. Don't click on "Load" as that imports the data directly without an option for data transformation.

Now "Sales Report" query is inserted. After you perform a transformation, the changes are recoded in the "Applied Steps" section.

f General Journal		123 Lightloin, Inc.	- AIC L28 Column2 -	A <sup>B</sup> <sub>C</sub> Column3 =	ABC L25 Column4 - A	& ColumnS		* PROPERTIES
Sales Report	1	Sales Report	- out	nul.	กมสั	oull		Name
	2		lun bun	9un	Bun.	nuf	<u>^</u>	Sales Report
	3	-	ul nul	nul	null	nut		All Properties
	-4	rt.	lun lun	lun	กมส์	nuf		APPLIED STEPS
	5	Sales Order #	Salesperson #	Region	Sales	nul		
	6	8709	1302	South	119423	nut		Source
	.7	8705	1302 LIO2	East	321989	nuf		Navigation
	8	#701	130/	East	155882	nut		Promoted Headers
	9	8709	1302	East	282097			× Changed Type
	10	8708	16 1302	North	305319	nut		
	11		17 130:	East	111512	nul		
	12	8709	1301	East	308051	nul		
	13	8701	19 1304	North	96059	nut		
	14	8705	1301	East	163350	nut		
	35	8709	1304	North	269853	nul		
	16	8709	1303	North	75450	nut		
	17	8709	13 2.304	East	203018	nuf		
	18	8709	1301	West	243896	nul		

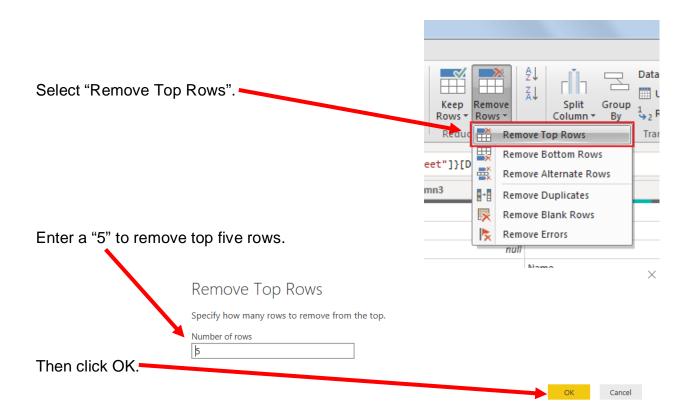


#### **Operation 2: Fix the Headers**

The field headers are in the sixth row of the source document. Remove the top five rows to move the headers to the first row and then make them to the Query Editors' headers

	ABC Column1	ABC 123 Column2	ABC 123 Column3	ABC 123 Column4	ABC Column5
1	LightJoin, Inc.	null	null	null	null
2	Sales Report	null	null	null	null
3	null	null	null	null	null
4	null	null	null	null	null
5	null	null	null	null	null
6	Sales Order #	Salesperson #	Region	Sales	null
7	87082	1301	South	119423	null
8	87083	1302	East	321989	null
9	87084	1304	East	155882	null

Sele	Select "Remove Rows".										
File	Home Transform	Add Column	View	Help							
Close & Apply •	New Recent Enter Source * Sources * Data	Data source settings	Manage Parameters •	Refresh Preview • Manage •	Choose Remove Columns • Columns •	Keep Remove Rows • Rows •	A↓ Z↓	Split Group 1 Column • By • 2 Replace Values	Merge Queries - Append Queries - Combine Files		
Close	New Query	Data Sources	Parameters	Query	Manage Columns	Reduce Rows	Sort	Transform	Combine		



	ABC Column1	ABC Column2	ABC 123 Column3	ABC 123 Column4	ABC Column5
1	Sales Order #	Salesperson #	Region	Sales	null
2	87082	1301	South	119423	null
3	87083	1302	East	321989	null
4	87084	1304	East	155882	null
5	87085	1302	East	282097	
6	87086	1302	North	305319	null

To make the first row the header, select "Use First Row as Headers".

	Home	Transform	Add Column	View He	elp				
Close & Apply *	New Source + 1	Recent Enter Sources + Data	Data source settings	Manage Parameters •	Refresh Preview + Manage +	Choose Remove Columns * Columns *	Keep Remove Rows * Rows *	Ž↓ Á↓ Ci	Data Type: Any ▼ Split Groep olumn ▼ By <sup>1</sup> →2 Replace Values
Close	N	ew Query	Data Sources	Parameters	Query	Manage Columns	Reduce Rows	Sort	Transform

#### The transformed table would like this:

	1 <sup>2</sup> 3 Sales Order #	1 <sup>2</sup> 3 Salesperson #	A <sup>B</sup> C Region 💌	1 <sup>2</sup> 3 Sales 💌	ABC Column5
1	87082	1301	South	119423	null
2	87083	1302	East	321989	null
3	87084	1304	East	155882	null
4	87085	1302	East	282097	
5	87086	1302	North	305319	null
6	87087	1301	East	111512	null
_					

After you perform a transformation, the changes are recorded in the "Applied Steps" section. If a step was incorrectly done, just delete the step redo.

#### ▲ APPLIED STEPS

Source	÷.
Navigation	*
Removed Top Rows	÷.
Promoted Headers	*
× Changed Type	

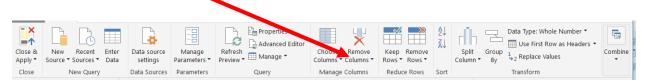
#### Operation 3: Clean up the columns

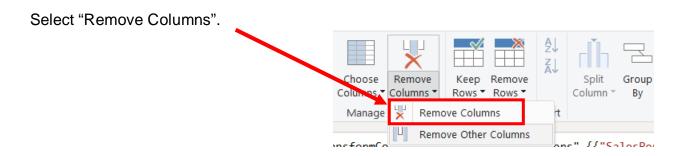
#### Remove extra columns

Select the extra column by clicking on the heading "Column5".

1         87082         1301         South         119423           2         87083         1302         East         321989	
1 97092 1202 Fort 221090	null
2 07000 1302 Edst 321989	null
3 87084 1304 East 155882	null
4 87085 1302 East 282097	
5 87086 1302 North 305319	null
6 87087 1301 East 111512	null
7 87088 1301 East 308051	null
8 87089 1304 North 96069	null
9 87090 1301 East 163360	null

#### Click on Remove Columns Drop-down



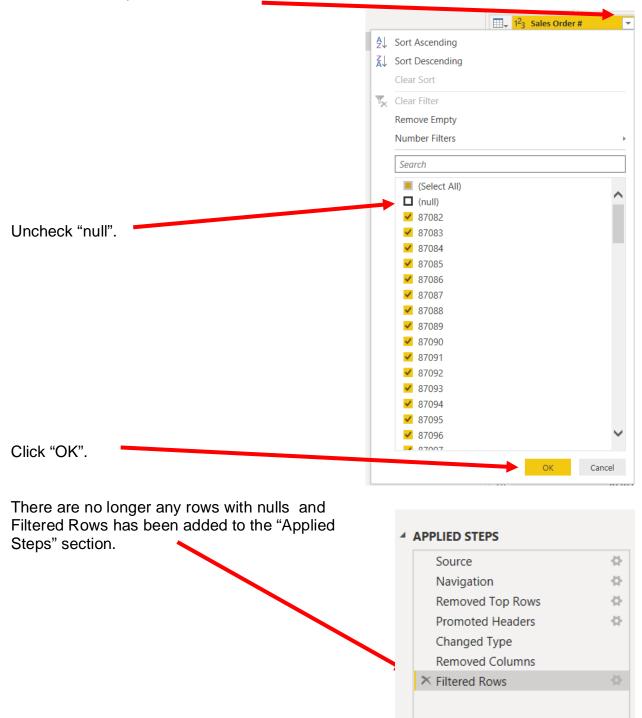


#### There are only four columns left in this table.

	1 <sup>2</sup> 3 Sales Order #	1 <sup>2</sup> 3 Salesperson #	A <sup>B</sup> C Region 💌	1 <sup>2</sup> 3 Sales 💌
1	87082	1301	South	119423
2	87083	1302	East	321989
3	87084	1304	East	155882
4	87085	1302	East	282097
5	87086	1302	North	305319
6	87087	1301	East	111512
7	87088	1301	East	308051
8	87089	1304	North	96069
9	87090	1301	East	163360

#### Operation 4 – Exclude rows that do not contain a valid entry for Sales Order #

There are several rows that must be removed because they do not contain valid data in the "Sales Order #" column. Nothing is being deleted from the source document. The process will just exclude these rows from the Power BI table.

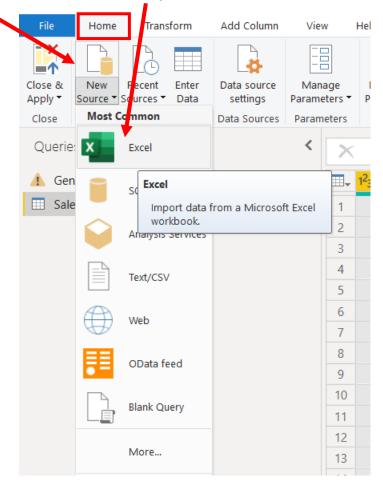


Click on the drop-down next to "Sales Order #".

#### **Operation 5: Get Data from New Source**

#### Input the "Salesperson Information" from LightJoin Excel data set

Import other datasets from the Power Query Editor. Under Home tab, select "New Source", then select Excel from the drop-down.



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🐛 OS (C:)						
🧼 DATA (D:)						
🧹 Tech (E:)						
🧼 Shr (S:)	~ <					
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Select the file *LightJoin.xlsx*.

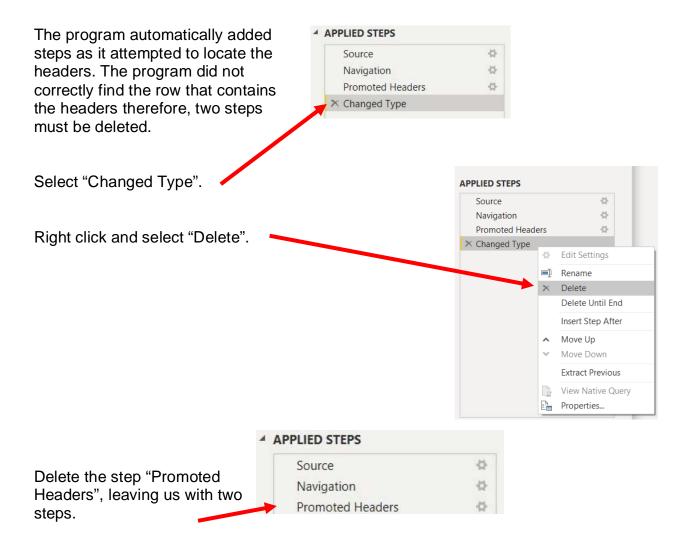


Double click on "**Salesperson Information**" or select the check box to the left of the sheet's name.

		Q	Salesperson Info	ormat	ion		
	Display Options 👻	G	LightJoin, Inc.		Column2	Column3	Column4
	🔺 📫 LyhtJoin.xlsx [3]		Salesperson Information	n	null	nul	7
	Comm SalesPerson by Region			null	null	nul	1
	Sales Report		SPID		Salesperson	Title	
	Salesperson Information				John Lennon	Sales Associate I	
	Salesperson information				George Harrison	Senior Sales Associate	
					Paul McCartney	Senior Sales Associate	
					Ringo Starr	Sales Associate I	
				null	null	nul	
				null null	null	nul	
				null	null		
				null	null		
				null	null	nul	
				null	null	nul	1
				null	null	nul	1
				null	null	nul	7
				null	null	nul	1
				null	null	nul	1
				null	null	nul	7
en Click "OK". 🖣				null	null	nul	1
				null	null	nul	1
				null	null	nul	1
				null	null	nul	1

The "SalesPerson Information" query is inserted. After a transformation is performed the changes are recoded in the "Applied Steps" section.

Seles Report         1         Selespensin Information         null         null         null         null         null         null           Seles Report         2         null         null         null         null         null         null           Seles Report         3         SPID         Salesperson         Title         null           4         13/02         John Lannon         Seles Accounte I         null           5         13/02         George Karrison         Seles Associate I         null           6         13/02         George Karrison         Seles Associate I         null           7         13/04         Rugo Starr         Seles Associate I         null	กมย สนุย กมย กมย	Name     Salesperson Information     All Properties
3         SPID         Salesperson         Title         nult           4         1303         John Linnon         Sales Associate 1         nult           5         1302         George Harrison         Selos Associate 1         nult           6         1303         Value MCCrithray         Senior Sales Associate 1         nult           7         1304         Rungo Starr         Sales Associate 1         nult	nut	All Properties
4         J 302 John Lennon         Sales Associate I         null           5         J202 Geoge Harrison         Senio Sales Associate         null           6         J202 Review         Senio Sales Associate         null           7         J304 Ringo Starr         Sales Associate I         null		
S         JJ02         George Harrison         Senior Sales Associate         Inull           6         JJ03         Paul McCentrey         Senior Sales Associate         exult           7         JJ04         Ringo Starr         Sales Associate I         mult	null	
6         J303 Paul McCentney         Senior Sales Associate         null           7         J304 Ringo Starr         Sales Associate 1         null		
7 2304 tingo Starr Sales Associate 1 nult	null	APPLIED STEPS
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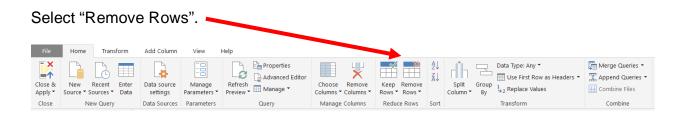


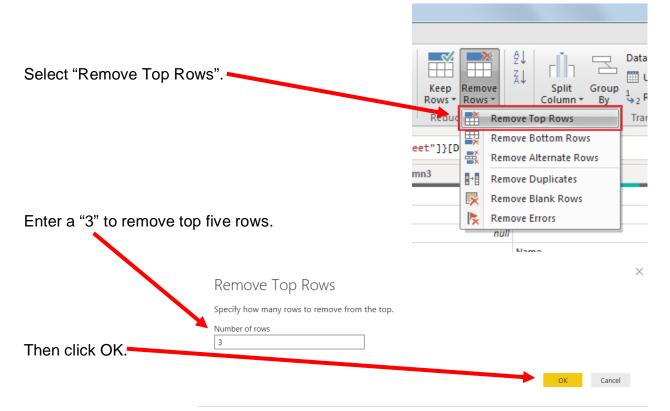
Source	-0
× Navigation	
3	

#### **Operation 6: Fix the Headers**

The field headers are in the fourth row of the source document. Remove the top three rows to move the headers to the first row and then assign that row as the headers.

	ABC Column1	ABC 123 Column2	ABC Column3	ABC Column4	ABC 123 Column5	ABC 123 Column6
1	LightJoin, Inc.	null	null	null	null	
2	Salesperson Information	null	null	null	null	
3	null	null	null	null	null	
4	SPID	Salesperson	Title	null	null	
5	1301	John Lennon	Sales Associate I	null	null	
6	1302	George Harrison	Senior Sales Associate	null	null	
7	1303	Paul McCartney	Senior Sales Associate	null	null	
8	1304	Ringo Starr	Sales Associate I	null	null	
9	null	null	null	null	null	
10	null	null	null	null	null	
11	null	null	null	null	null	
10		11	11			





	ABC Column1	ABC 123 Column2	ABC Column3	ABC Column4	ABC Column5	ABC 123 Column6
1	SPID	Salesperson	Title	null	null	
2	1301	John Lennon	Sales Associate I	null	null	
3	1302	George Harrison	Senior Sales Associate	null	null	
4	1303	Paul McCartney	Senior Sales Associate	null	null	
5	1304	Ringo Starr	Sales Associate I	null	null	
6	null	null	null	null	null	
7	null	null	null	null	null	

To make the first row in the current data as header, select "Use First Row as Headers".

	Home Transform A	Add Column View Help				
Close Apply Close	& New Recent Enter Source - Sources - Data	Data source Manage Ret	fresh /iew + III Manage * Colu	ose Remove mns * Columns * nage Columns	Z↓ Split Group	rpe: Any * • First Row as Headers * Dlace Values
T	1 <sup>2</sup> 3 spid 💌	A <sup>B</sup> <sub>C</sub> Salesperson ▼	A <sup>B</sup> <sub>C</sub> Title ▼	ABC 123 Column4	ABC 123 Column5	ABC 123 Column6
1	1301	John Lennon	Sales Associate I	null	null	
2	1302	George Harrison	Senior Sales Associate	null	null	
3	1303	Paul McCartney	Senior Sales Associate	null	null	
4	1304	Ringo Starr	Sales Associate I	null	null	
5	null	null	null	null	null	
6	null	null	null	null	null	
7	null	null	null	null	null	

After a transformation is performed the changes are recorded in the "Applied Steps" section. If a step was incorrectly completed, just delete the step redo.



#### ▲ APPLIED STEPS

Source	÷
Navigation	*
Removed Top Rows	*
Promoted Headers	*
× Changed Type	

#### Operation 7: Clean up the columns

#### Remove extra columns and rename the columns

Select the columns that contain data by clicking on the heading "SPID" and then hold down the "Shift" key, and at the same time, clicking on the heading "Title".

	1 <sup>2</sup> 3 SPID 💌	A <sup>B</sup> C Salesperson	A <sup>B</sup> <sub>C</sub> Title	ABC Column4	ABC Column5	ABC 123 Column6
1	1301	John Lennon	Sales Associate I	null	null	
2	1302	George Harrison	Senior Sales Associate	null	null	
3	1303	Paul McCartney	Senior Sales Associate	null	null	
4	1304	Ringo Starr	Sales Associate I	null	null	
5	null	null	null	null	null	
6	null	null	null	null	null	
7	null	null	null	null	null	
8	null	null	null	null	null	
0	eull.	null.				

#### Click on the "Remove Columns" Drop-down.

Close	& New	Recent Sources	Enter Data	Data source settings	Manage Parameters •	Refresh Preview Wanage *	Choose Remove Columns • Columns •	Keep Remove Rows * Rows *	2↓ Z↓	Split Grou Column - By	Data Type: Whole Number ▼ Use First Row as Headers ▼ <sup>D</sup> <sup>1</sup> <sub>&gt;2</sub> Replace Values	Combine
Clos	e	New Query		Data Sources	Parameters	Query	Manage Columns	Reduce Rows	Sort		Transform	

#### Select "Remove Other Columns".



To rename the first column heading, double click on "SPID".

₩₹	1 <sup>2</sup> 3 SPID	· ·	A <sup>B</sup> C Salesperson	✓ A <sup>B</sup> <sub>C</sub> Title	Ŧ
_					

#### Type "Sales Person ID" and press enter.

 123 Sales Person ID	-	A <sup>B</sup> C Salesperson	▼ A <sup>B</sup> <sub>C</sub> Title	-

#### Operation 8 – Exclude rows that do not contain a number for "Sales Person ID"

There are several rows that do not contain valid data in the "Sales Person ID" column, and which must be removed. Nothing is being deleted from the source document. This will just exclude rows from the Power BI table.

Click on the drop-down in the "Sales Person ID" column heading.

			 2 <sub>3</sub> Sales Person I	D 👻
	₽J	Sort Ascending		
	Z↓	Sort Descending		
		Clear Sort		
	T <sub>×</sub>	Clear Filter		
		Remove Empty		
		Number Filters		Þ
Uncheck "null".		Search		
Oneneek huir.		🧵 (Select All)		
		🔲 (null)		
		✓ 1301		
		✓ 1302		
		✓ 1303		
		<mark>✓</mark> 1304		
			 ОК	Cancel
Click "OK".				

Notice that there are no longer any rows with nulls and Filtered Rows has been added to the "Applied Steps" section.

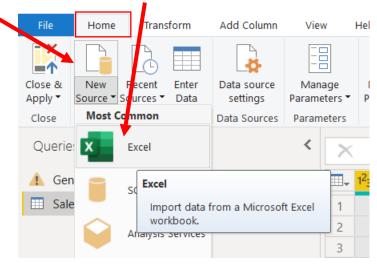
# APPLIED STEPS Source Navigation Removed Top Rows Promoted Headers Changed Type Removed Other Columns Renamed Columns

➤ Filtered Rows

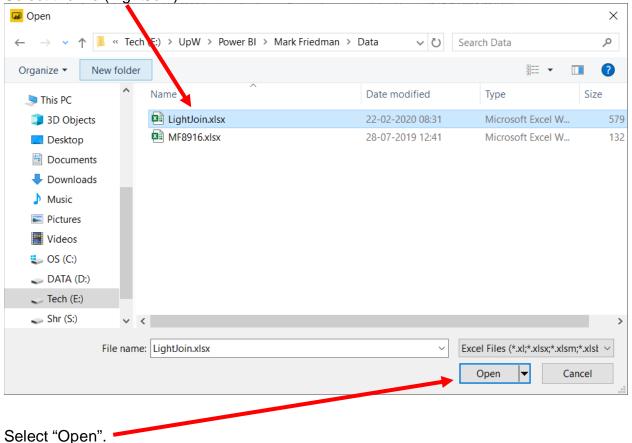
#### **Operation 9: Get Data from New Source**

#### Input the "Comm SalesPerson by Region" from the LightJoin Excel data set.

You can import other datasets from the Power Query Editor. Under the "Home" tab, select "New Source". Then select Excel from the drop-down



#### Select the file (LightJoin).



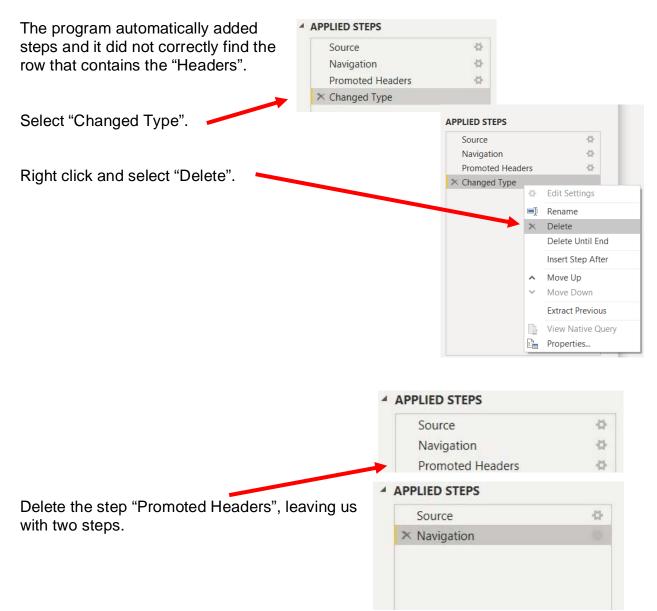
## Double click on "Comm SalesPerson by Region" or select the check box to the left of the sheet's name.

splay Options	LightJoin, Inc.	Column2	Column3	Column4	Colum
lightoin.xlsx [3]	Commission % by Salesperson by Region	null			coluin
Comm SalesPerson by Region	null	null	null	null	
	null	null	null	null	
IIII Sales Report	null	null	null	null	
Salesperson Information	null	null	null	null	
	SalesPerson	East	West	North	Sout
	1301	4	4.5	5.5	
	1302	2	2.5	3	
	1303	3	3.25	3.75	
	1304	3	3.25	4.25	
	null	null		null	
	null	null			
	null	null			
	null	null			
	null	null			
	null	null			
	null	null			
	null	null			
	null	null			
	null	null			
	null	null	null	null	
	null	null	null	null	`
	<				>

Select "OK" and the data gets loaded into the Power Query editor window.

The "Comm SalesPerson by Region" query is now inserted. After a transformation is performed the changes are recoded in the "Applied Steps" section.

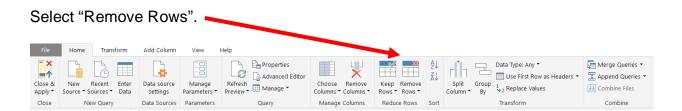
f. General Journal	Ξ.	111 Lightsoin, Inc.	ABC Column2		ABC 123 Column3	- 1	10C Column4	ABC 123 Column5	<ul> <li>ABC 123 Column6</li> </ul>	PROPERTIES	
Sales Report	1	Commission % by Salesperson by Region		nuil	2	nuli	Nya		null	Name	
Salesperson Information	2	mu	a	nut		nut	null		nuit 🔷	Comm SalesPerson by Region	
Comm SalesPerson by Region	3	nu	di .	null		nult	null		null	All Properties	
	4	nu	an .	null		null	null		null	A APPLIED STEPS	
	5	m	a	null		nut	null		null		
	6	SalesPerson	East		West		North	South		Source	
	7	2.30	12	- 4		4.5	5.5		6	Navigation	
	8	130	12	2		2.5	3		3.25	Promoted Headers	
	9	2.30	18	3		1.25	3.75		4	➤ Changed Type	
	10	2.30	м	3		1.25	4.25		4.75	•	
	11		all .	flun		nut	null		null		

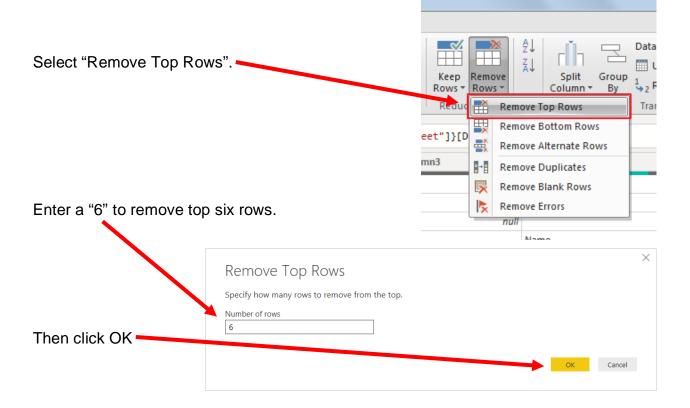


#### **Operation 10: Fix the Headers**

The field headers are in the seventh row of the source document. Remove the top six rows to move the headers to the first row and then make them to the Query Editors' headers.

	ABC Column1	ABC 123 Column2	ABC 123 Column3	ABC 123 Column4	ABC Column5	ABC Column6
1	LightJoin, Inc.	null	null	null	null	
2	Commission % by Salesperson by Region	null	null	null	null	
3	null	null	null	null	null	
4	null	null	null	null	null	
5	null	null	null	null	null	
6	null	null	null	null	null	
7	SalesPerson	East	West	North	South	
8	1301	4	4.5	5.5	6	
9	1302	2	2.5	3	3.25	
10	1303	3	3.25	3.75	4	
11	1304	3	3.25	4.25	4.75	
12	null	null	null	null	null	
13	null	null	null	null	null	
14	null	null	null	null	null	





	ABC Column1	ABC 123 Column2	ABC 123 Column3	ABC 123 Column4	ABC 123 Column5	ABC 123 Column6
1	SalesPerson	East	West	North	South	
2	1301	4	4.5	5.5	б	
3	1302	2	2.5	3	3.25	
4	1303	3	3.25	3.75	4	
5	1304	3	3.25	4.25	4.75	

To make the first row in the current data the header, select "Use First Row as Headers".

∎▼	Home	Transform	n A	dd Column	View H	elp						
Close & Apply *	New Source •			Data source settings	Manage Parameters <del>•</del>	Refresh Preview	Properties	Choose Columns +	Remove Columns *	Keep Remove Rows * Rows *	Ą. ∡↓	Data Type: Any ▼ Data Type: Any ▼ Use First Row as Headers ▼ Split Group Column ▼ By ↓ 2 Replace Values
Close	N	lew Query		Data Sources	Parameters		Query	Manage	Columns	Reduce Rows	Sort	t Transform

	1 <sup>2</sup> 3 SalesPerson	1 <sup>2</sup> 3 East	1.2 West	1.2 North	1.2 South	ABC 123 Column6
1	1301	4	4.5	5.5	6	
2	1302	2	2.5	3	3.25	
3	1303	3	3.25	3.75	4	
4	1304	3	3.25	4.25	4.75	
5	nul	null	null	null	null	
6	nul	l null	null	null	null	

After you perform a transformation, the changes are recorded in the "Applied Steps" section. If a step was incorrectly done, just delete the step redo.

#### ▲ APPLIED STEPS

Source	*
Navigation	*
Removed Top Rows	÷.
Promoted Headers	÷.
🗙 Changed Type	

#### Operation 11: Clean up the columns:

#### Remove extra columns and rename the columns

Select the columns "SalesPerson" up until "South" by clicking on the heading "SalesPerson". Hold down the shift key and at the same time click on the column heading "South".

	123 SalesPerson	1 <sup>2</sup> 3 East	1.2 West	1.2 North	1.2 South 💌	ABC 123 Column6
1	1301	4	4.5	5.5	6	
2	1302	2	2.5	3	3.25	
3	1303	3	3.25	3.75	4	
4	1304	3	3.25	4.25	4.75	
5	null	null	null	null	null	
б	null	null	null	null	null	
7	null	null	null	null	null	
Q	null	null	null	null	null	

Click on the "Remove Columns" drop-down.

Select "Remove Other Columns".

	A↓ Z↓	r h Z
Choose Remove Keep Remove Columns Columns Rows Rows Rows	Av	Split Group Column * By
Mahage 😾 Remove Columns	rt	
Remove Other Columns	an	e" //"SalasDa

Double click on "SalesPerson" and rename it by typing "Sales Person #" and pressing the enter key.

	Person 🔽 1 <sup>2</sup> 3 East	▼ 1.2 West	▼ 1.2 North	▼ 1.2 South	•
1	1301	4	4.5	5.5	6
I III → 123	Sales Person #	<b>*</b>			

#### Operation 12 – Exclude rows that do not contain a number for "Sales Person #"

There are several rows that do not contain valid data in the "Sales Person #" column, which can be removed. Nothing is being deleted from the source. This will just exclude records from the final table.

Click on the drop-down in the "Sales Person #" column.

			23 Sales Perso		1 <sup>2</sup> 3 East	
	A 1		-3 Sales Perso	n#	143 East	•
		Sort Ascending				4
	Z↓	Sort Descending				2
		Clear Sort				3
	T <sub>x</sub>	Clear Filter				3
		Remove Empty				null
		Number Filters		•		null
						null
Uncheck "null".		Search				null
		(Select All)				null
		(null)				null
		<mark>✓</mark> 1301				null
		<mark>✓</mark> 1302				null
		✓ 1303				null
		✓ 1304				null
		🗼 List may be incomplete.		Load more		null
						null
			OK	Cancel		null
Click "OK".						
There are no rows	s wit	h nulls and a Filtered R	ows 🔺	APPLIED STE	PS	
is added to the Ap	oplie	d steps section.		Source		4
				Navigatio	n	4
					Top Rows	4
				Promoted	Headers	- 0-
				Changed	Туре	
				Removed	Other Columns	4
				Renamed		
				× Filtered R	ows	4

#### **Operation 13: Unpivot columns**

Unpivot all the data in the "Region" column producing a table of commission for every combination of "Sales Person #" and "Region".

Select East, West, North and South. You can do that by clicking on East, then press Shift and South together

	1 <sup>2</sup> 3 Sales Person #	1 <sup>2</sup> 3 East	1.2 West	1.2 North	1.2 South
1	1301	4	4.5	5.5	6
2	1302	2	2.5	3	3.25
3	1303	3	3.25	3.75	4
4	1304	3	3.25	4.25	4.75

Select Transform and the select "Unpivot Columns".

File Home Transform A	dd Column View To	ools Heip		
Transpose	Data Type: Whole Number 👻		🖫 Unpivot Columns 👻	Merge Columns
☐ ☐ C ☐ Reverse Rows	📅 Detect Data Type	👽 Fill 👻	Unpivot Columns	ABC 123 Extract ▼
Group Use First Row 1 By as Headers 2 Count Rows	🗐 Rename	🖫 Pivot Column	Unpivot Other	ranslate all but the currently
Table		Any Column		inselected columns into
			а	ttribute-value pairs.

	1 <sup>2</sup> 3 Sales Person #	A <sup>B</sup> C Attribute 💌	1.2 Value 💌
1	1301	East	4
2	1301	West	4.5
3	1301	North	5.5
4	1301	South	б
5	1302	East	2
6	1302	West	2.5
7	1302	North	3
8	1302	South	3.25
9	1303	East	3
10	1303	West	3.25
11	1303	North	3.75
12	1303	South	4
13	1304	East	3
14	1304	West	3.25
15	1304	North	4.25
16	1304	South	4.75

Rename the columns "Attribute" & "Value" to "Region" & "Commission %" respectively by double clicking on the headers

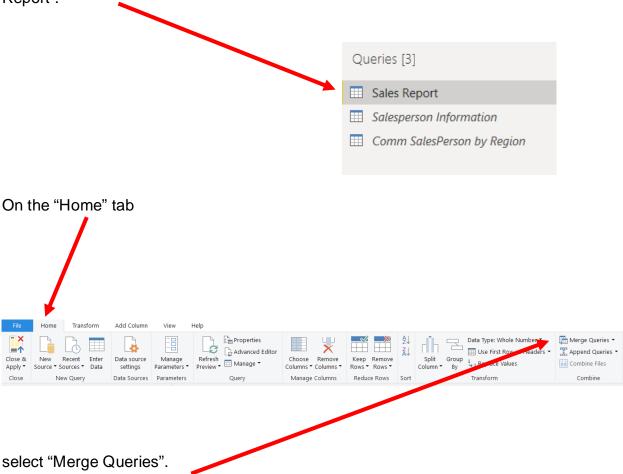
1 <sup>2</sup> 3 Sales Person #	A <sup>B</sup> C Region	✓ 1.2 Commission %
1301	East	4
1301	West	4.5
	1301	1 <sup>2</sup> 3 Sales Person # A <sup>B</sup> <sub>C</sub> Region <i>1301</i> East <i>1301</i> West

The data in the "Commission %" column is a decimal and you will use it accordingly while computing the Commission for each Salesperson.

#### **Operation 14: Merge datasets**.

### Combining the data from the "Sales Report" query with the "Salesperson Information" query.

We will merge the data sets two at a time. Data Set 1 mergers with Data Set 2 to form Data Set 1&2. Data Set 1&2 is then merged with Data Set 3 to form Data Set 1&2&3. Start with the "Sales Report" query by navigating to "Queries and selecting "Sales Report".



 $\times$ 

By default, the current query will be the first table.	Merge Select a table a	nd matching co	lumns to	create a me	rged table.	
	Sales Report					D
		Salesperson #	Region	Sales		
	87082			119423		
	87083	130.	2 East	321989		
Select the second table,	87084			155882		
			-			
•	87080	150.	North	505519		
from the drop-down.	he first table.   Selet a table and matching columns to create a merged table. Selet a table and matchi					
	Sales Report (Co	urrent) prmation				
	Join Kind		alesperson	No prev	ew is available	
		om first, matchir	g from see	cond)	•	
	Use fuzzy mat	ching to perform	the merg	e		
	> Fuzzy matching	options				
common field(s) between	0	natching colum	ns to crea	ite a merge		
	Sales Report					De
In this case, it would be	Sales Order # Sa	esperson # R	egion S	ales		
		-	-			
	87083	1302 E	ast	321989		
first dataset						
and "Sales Person ID" from						D
the second dataset.				ate I		
	1303	aul McCartney	Senior Sales	Associate		
	1304	Ringo Starr S	Sales Associ	ate I		
The number of matches is						
reported, 94 of 94.	Leie Kied					
		first, matching fr	om secono	i) -	7	
					L	
	> Fi zzy matching op		]			
•	<ul> <li>The selection ma</li> </ul>	tches 94 of 94 re	ws from t		OK Can	cel
Click OK.						

30

This will add a new column called "Salesperson Information". Click on the button next to the header.

	1 <sup>2</sup> 3 Sales Order #   ▼	1 <sup>2</sup> 3 Salesperson #	A <sup>B</sup> C Region	1 <sup>2</sup> 3 Sales	tion he
1	87082	1301	South	Search Columns to Expand	2↓
2	87083	1302	East	• Expand • Aggregate	
3	87084	1304	East	. 33 3	
4	87085	1302	East	(Select All Columns)	
5	87086	1302	North	□ Sales Person ID ✓ Salesperson	
6	87087	1301	East	✓ Title	
7	87088	1301	East	<ul> <li>nue</li> </ul>	
8	87089	1304	North		
9	87090	10.	East	Use original column name as prefix	
10	87091	1304	North		
11	87092	1303	North	ок с	ancel

Uncheck "Sales Person ID" and uncheck "Use original column name as prefix" then click OK.

This will load the two new columns "Salesperson" and "Title".

	1 <sup>2</sup> 3 Sales Order #	■ 1 <sup>2</sup> 3 Salesperson #	A <sup>B</sup> <sub>C</sub> Region	1 <sup>2</sup> 3 Sales 💌	A <sup>B</sup> C Salesperson	A <sup>B</sup> C Title ▼
1	8708	2 1301	South	119423	John Lennon	Sales Associate I
2	8708	3 1302	East	321989	George Harrison	Senior Sales Associate
3	8708	5 1302	East	282097	George Harrison	Senior Sales Associate
4	8708	6 1302	North	305319	George Harrison	Senior Sales Associate
5	8708	4 1304	East	155882	Ringo Starr	Sales Associate I
6	8708	7 1301	East	111512	John Lennon	Sales Associate I
7	8708	8 1301	East	308051	John Lennon	Sales Associate I

#### **Operation 15: Merge datasets**.

## Combining the data from the "Sales Report" query and the "Comm SalesPerson by Region" query.

The unique key that is common to both queries is a combination of "Sales Person ID" and "Region".

To initiate the join, on the Home tab, select "Merge Queries".

File	Home	Transform	Add Column	View	Help				
Close & Apply •	New Re Source - Sou	cent Enter rces Data	Data source settings	Manage Parameters •	Refresh Preview • Manage •	Choose Remove Columns • Columns •	Keep Remove Rows • Rows •	A↓ Z↓	Split       Group       Data Type: Whole Number       Image: Whole Number         Split       Group       Image: Whole Number       Image: Whole Number         Column *       By       Split       Split         Split       By       Replace Values       Image: Whole Number
Close	New	Query	Data Sources	Parameters	Query	Manage Columns	Reduce Rows	Sort	Transform Combine

By default, the current query, "Sales Report", will be the first table.

down.       Comm SalesPerson by Region       Image: Commission %         1301       East       4         1301       East       4         1301       West       4.5         1301       South       6         1302       East       2         Join Kind         Left Outer (all from first, matching from second)       *         I Use fuzzy matching to perform the merge		Merge							×
Select the second table,       1302       Suth       11942       John Lennon       Sales Associate I         87083       1302       East       321989       George Harrison       Senior Sales Associate         87083       1302       East       321989       George Harrison       Senior Sales Associate         87083       1302       East       32513       George Harrison       Senior Sales Associate         87083       1302       North       305313       George Harrison       Senior Sales Associate         87084       1304       East       155882       Ringo Starr       Sales Associate I         87084       1302       North       305313       George Harrison       Senior Sales Associate         87084       1304       East       155882       Ringo Starr       Sales Associate I			d matching col	imns to cre	eate a me	erged table.			[]a
Select the second table,         "Comm Sales Person by         Region", from the drop-         down.         Image: Select the second table,         B7083       1302       East       120207       George Harrison       Selior Sales Associate         B7083       1302       North       305319       George Harrison       Selior Sales Associate         B7084       1304       East       155882       Ringo Starr       Sales Associate         Image: Select the second table,       Image: Select the second table,       Select the second table,       Select the second table,         B7084       1304       East       155882       Ringo Starr       Sales Associate         Image: Select the second table,       Select the second table,       Select the second table,       Select the second table,         Image: Select the second table,       Select the second table,       Select table,       Select table,         Image: Select table,       Select table,       Select table,       Select table,       Select table,         Image: Select table,         Image: Select table,       Select table,       Select table,       Select table,       Select		Sales Order #	Salesperson #	Region	Sales	Salesperson	Title		
"Comm Sales Person by Region", from the drop- down.       Image: State in the drop- in the drop- down.       Image: State in the drop- in the drop- down.         Image: State in the drop- down.       Image: State in the drop- in the drop- in the drop- down.       Image: State in the drop- in the drop in the							Sales Associate I		
Broads       1302       North       305319       George Harrison       Senior Sales Associate         down.       1304       East       15582       Ringo Starr       Sales Associate I    Comm SalesPerson by Region          1301       East       4         1301       East       4         1301       East       4         1301       South       5.5         1301       North       5.5         1301       South       6         1302       East       2	Select the second table,	87083	1302	East	321989	George Harrison	Senior Sales Associate		
Broads       1302       North       305319       George Harrison       Senior Sales Associate         down.       1304       East       15582       Ringo Starr       Sales Associate I    Comm SalesPerson by Region          1301       East       4         1301       East       4         1301       East       4         1301       South       5.5         1301       North       5.5         1301       South       6         1302       East       2	"Comm SalesPerson by	87085	1302	East	282097	George Harrison	Senior Sales Associate		
down.       Comm SalesPerson by Region       Image: Commission %         1301       East       4         1301       East       4         1301       Sales Person #       Region         1301       East       4         1302       West       4.5         1302       East       2         Join Kind         Left Outer (all from first, matching from second)       *         Use fuzzy matching to perform the merge       *	-	87086	1302	North	305319	George Harrison	Senior Sales Associate		
Comm SalesPerson by Region       •         Sales Person #       Region       Commission %         1301       East       4         1301       West       4.5         1301       North       5.5         1301       South       6         1302       East       2	Region", from the drop-	87084	1304	East	155882	Ringo Starr	Sales Associate I		
Sales Person #RegionCommission %1301East41301West4.51301North5.51301South61302East2Join KindLeft Outer (all from first, matching from second)*	down.								
1301       East       4         1301       West       4.5         1301       North       5.5         1302       South       6         1302       East       2		Comm SalesPers	on by Region	~					Co.
1301     West     4.5       1301     North     5.5       1301     South     6       1302     East     2   Join Kind Left Outer (all from first, matching from second) Use fuzzy matching to perform the merge		Sales Person #	Region Com	mission %					
1301     North     5.5       1301     South     6       1302     East     2   Join Kind Left Outer (all from first, matching from second)       Use fuzzy matching to perform the merge		1301	East		4				
1301     South     6       1302     East     2   Join Kind Left Outer (all from first, matching from second)       Use fuzzy matching to perform the merge		1301	West	4.	5				
1302     East     2   Join Kind       Left Outer (all from first, matching from second)       Use fuzzy matching to perform the merge		1301	North	5.	5				
Join Kind Left Outer (all from first, matching from second) v Use fuzzy matching to perform the merge		1301	South		6				
Left Outer (all from first, matching from second) <ul> <li>Vise fuzzy matching to perform the merge</li> <li>Vise fuzzy m</li></ul>		1302	East	1	2				
Use fuzzy matching to perform the merge		Join Kind							
		Left Outer (all fro	om first, matching	from secor	nd)	-			
					-				
> Fuzzy matching options		> Fuzzy matching	options						
OK Cancel								ОК	Cancel

To select two columns as the joining condition, first select the first column then Ctrl+ Click on the second column. The order of selection is also very important. For this use case you will select the "Salesperson ID" first followed by "Region".

ð

#### Select "Salesperson #" and "Region" from the first table.

Sales Repor	t
-------------	---

870821301South119423John LennonSales Associate I870831302East321989George HarrisonSenior Sales Associate870851302East282097George HarrisonSenior Sales Associate870861302North305319George HarrisonSenior Sales Associate870841304East155882Ringo StarrSales Associate I	Sales Order #	Salesperson # 1	Region 2	Sales	Salesperson	Title
870851302East282097George HarrisonSenior Sales Associate870861302North305319George HarrisonSenior Sales Associate	87082	1301	South	119423	John Lennon	Sales Associate I
87086 1302 North 305319 George Harrison Senior Sales Associate	87083	1302	East	321989	George Harrison	Senior Sales Associate
	87085	1302	East	282097	George Harrison	Senior Sales Associate
87084 1304 East 155882 Ringo Starr Sales Associate I	87086	1302	North	305319	George Harrison	Senior Sales Associate
	87084	1304	East	155882	Ringo Starr	Sales Associate I

From the second table select "Sales Person #" and "Region".

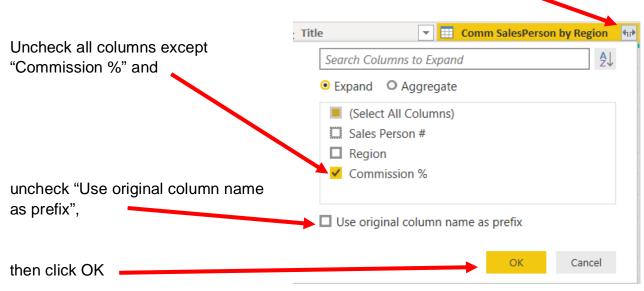
Comm SalesPerso	on by Regio	n 👻
Sales Person # 1	Region 2	Commission %
1301	East	4
1301	West	4.5
1301	North	5.5
1301	South	6
1302	East	2

#### Once the selection from both tables is completed, Click OK.

							Cà
Sales Order #	Salesperson # 1	-		Salesperson	Title		
87082		South		John Lennon	Sales Associate I		
87083		East	321989	0			
87085		East	282097				
87086 87084		North East	305319	George Harrison Ringo Starr	Senior Sales Associate Sales Associate I		
Sales Person # 1		mission %					
Sales Person # 1	Region 2 Com	mission %					
1301			4				
	West		.5				
	North	5	.5				
	South		6				
1302	East		2				
oin Kind						_	

This will add a new column called "Comm SalesPerson by Region".

Click on the button next to the header.



This will load the new column "Commission %".

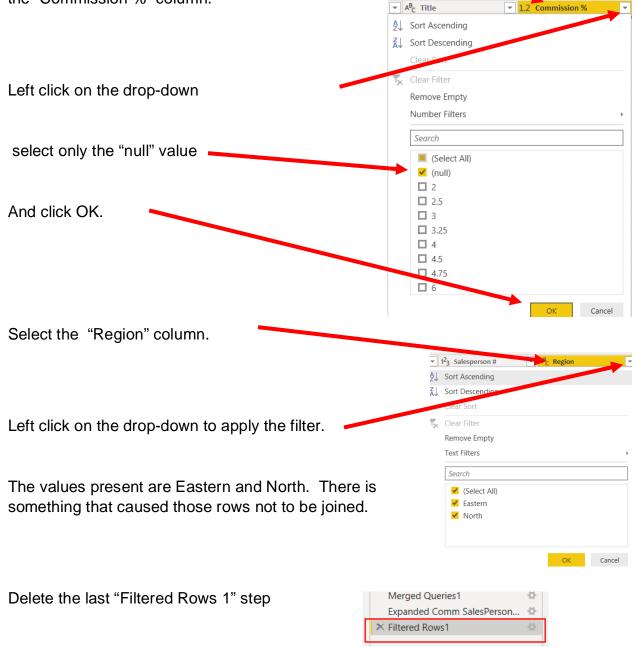
	-	1 <sup>2</sup> 3 Salesperson # ▼	A <sup>B</sup> <sub>C</sub> Region	1 <sup>2</sup> 3 Sales	A <sup>B</sup> <sub>C</sub> Salesperson	A <sup>B</sup> <sub>C</sub> Title ▼	1.2 Commission %
1	7082	1301	South	119423	John Lennon	Sales Associate I	6
2	7087	1301	East	111512	John Lennon	Sales Associate I	4
3	7088	1301	East	308051	John Lennon	Sales Associate I	4
4	7090	1301	East	163360	John Lennon	Sales Associate I	4
5	7083	1302	East	321989	George Harrison	Senior Sales Associate	2
6	7085	1302	East	282097	George Harrison	Senior Sales Associate	2
7	7096	1302	East	160356	George Harrison	Senior Sales Associate	2
8	7094	1301	West	243896	John Lennon	Sales Associate I	4.5
9	7086	1302	North	305319	George Harrison	Senior Sales Associate	null
10	7084	1304	East	155882	Ringo Starr	Sales Associate I	3
11	7093	1304	East	203018	Ringo Starr	Sales Associate I	3
12	7089	1304	North	96069	Ringo Starr	Sales Associate I	null

There are certain "Commission %" values that contain "null".

#### **Operation 16: Review the "Commission %" Column**

Some of the rows do not have a valid result in the "Commission %" column. There must be differences between the data from the two queries that inhibit a match. Generally, we would look for different spellings or spaces.

We can review the "Commission %" column to determine which rows have nulls. Select the "Commission %" column.



The other query with which we are attempting to join is "Comm SalesPerson by Region".



Switch to the "Comm SalesPerson by Region" query.

Select the "Region" drop-down and review the unique values.

There are only four unique values and "Eastern" is not one of them. "Eastern" which appears in "Sales Report" query should have been coded as "East".

Select Cancel to close the "Region" drop-down.

2↓       Sort Ascending         ズ↓       Sort Descending         Clear Sort       Clear Filter         Remove Empty       Text Filters         Search       ✓         ✓       (Select All)         ✓       South	
Clear Sort Clear Filter Remove Empty Text Filters Search (Select All) East North South	
Clear Filter Remove Empty Text Filters   Search   ✓   (Select All)   ✓	
Remove Empty Text Filters Search (Select All) East North South	
Remove Empty Text Filters Search (Select All) East North South	
Search	
<ul> <li>✓ (Select All)</li> <li>✓ East</li> <li>✓ North</li> <li>✓ South</li> </ul>	Þ
<ul> <li>► East</li> <li>✓ North</li> <li>✓ South</li> </ul>	
<ul><li>✓ North</li><li>✓ South</li></ul>	
✓ South	
4 344 3	
✓ West	

Before we leave the "Comm SalesPerson by Region" query, there was a problem with the data "North" in the column "Region".

		1 <sup>2</sup> 3 Sales Person #	A <sup>B</sup> <sub>C</sub> Region	1.2 Commission %
	1	1301	East	4
	2	1301	West	4.5
Select one of the "North"	3	1301	North	5.5
values and the selected	4	1301	South	б
value is shown at the	5	1302	East	2
	6	1302	West	2.5
bottom.	7	1302	North	3
	8	1302	South	3.25
		1303	East	3
	10	1303	West	3.25
	11	1303	North	3.75
	12	1303	South	4
Double click on the word to	13	1304	East	3
	14	1/1	West	3.25
select the entire piece of	15	1304	North	4.25
data.	16	1304	South	4.75
Notice that there is an extra	Nor	th		

space highlighted along with the word "North"

One data set contains "North" and the other data set contains "North ",with a space. The extra space in the "Comm SalesPerson by Region" query prevents the rows from being joined.

Select "Region" colur	mn.			A <sup>B</sup> <sub>C</sub> Region	<b>•</b>
5		·····			
		1		East	
		2		West	
		3		North	
		4		South	
		5		East	
		6		West	
		7		North	
		8		South	
Select Transform.		9	1303	East	
File Home Transform	Add Column View Help				
		-			
Transpose		s 👻 Unpivot Columns 👻		ABC Merge Column	5 Χσ + Σ ÷>
Group Use First Row 1	📅 Detect Data Type 😈 Fill 🕶	Hove 🕶	Split Fr	armat	Statistics Standa
By as Headers • 2 Count Rows	🛒 Rename 🦉 Pivot Column	Convert to List	Column -	▼ Parse ▼	• •
Select Trim.	extra spaces in the te	xt.	Form	<sup>→</sup> <sup>ABC</sup> <sub>123</sub> Extract ▼	
				Source	ф , , ,
				Navigation	ф , , , , , , , , , , , , , , , , , , ,
The new step is outer		the Applied		Removed Top Rows	
The new step is autor	matically recorded in	the Applied		Dromotod Hondorn	
	matically recorded in	the Applied		Promoted Headers	₿.
Steps.	matically recorded in	the Applied		Changed Type	
	matically recorded in	the Applied		Changed Type Removed Other Co	
	matically recorded in			Changed Type Removed Other Co Renamed Columns	lumns 🍄
	matically recorded in			Changed Type Removed Other Co Renamed Columns Filtered Rows	lumns 🍄
	matically recorded in			Changed Type Removed Other Co Renamed Columns Filtered Rows Unpivoted Columns	lumns 🍄
	matically recorded in			Changed Type Removed Other Co Renamed Columns Filtered Rows	lumns 🍄



Before the two data sets are merged the column "Region" must be corrected by replacing the value "Eastern" with "East".

	Filtered Rows	4
	Merged Queries	÷
Select the Expanded Salesperson	➤ Expanded Salesperson Inform	\$
Information step.	Merged Queries1	4
	Expanded Comm SalesPerson	$\Phi$

## Select the column "Region"

	1 <sup>2</sup> 3 Sales Order #	1 <sup>2</sup> 3 Salesperson #	A <sup>B</sup> C Region	1 <sup>2</sup> 3 Sales 💌
1	87082	1301	South	119423
2	87083	1302	East	321989
3	87085	1302	East	282097
4	87086	1302	North	305319
5	87084	1304	East	155882
6	87087	1301	East	111512
7	87088	1301	East	308051
8	87089	1304	North	96069

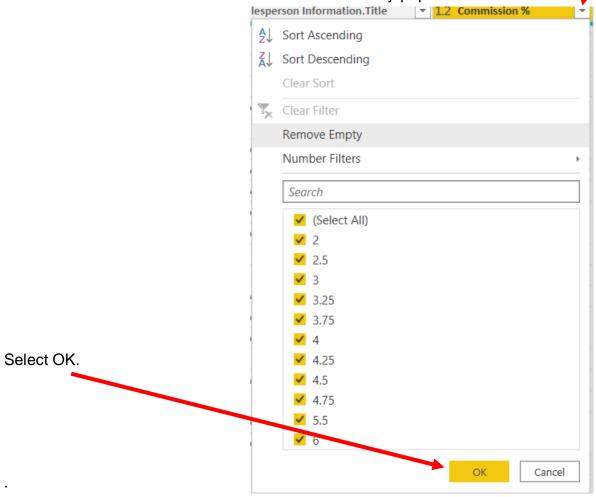
Select Transform and then								
	File	Home	Transform	Add Column	View	Help		
select Replace Values.			<i>∂</i> ∎. <del>.</del>	Data Type: T	ovt 🔻	a Replace Values	- 🖫 Unpivot Columns -	
			🛱 Reverse Row	vs 📑 Detect D	ata Type	↓ Fill ▼	📕 Move 👻	
	Group ( By	Use First Row as Headers 🔻	12 Count Rows	🗐 Rename		🖳 Pivot Column	Convert to List	
		Table	e			Any Column		

Select insert to confirm that you existing steps.	want to proceed with inserting a step between already
existing steps.	Insert Step
	Are you sure you want to insert a step? Inserting an intermediate step may affect subsequent steps, which could cause your query to break.
	Insert Cancel
	Replace Values
	Replace one value with another in the selected columns.
	Value To Find Eastern
Type "Eastern" as the "Value to Find" and "East"	Replace With East
as the value to "Replace With".	> Advanced options
Select OK to confirm.	OK Cancel

This will replace all the "Eastern" values with "East".

#### APPLIED STEPS Source **₽** ₽. Navigation Removed Top Rows ₽. Promoted Headers ÷ Changed Type Removed Columns Filtered Rows ÷ **₽** Merged Queries Expanded Salesperson Inform... 🍄 Replaced Value ÷ ₽ Merged Queries1 Expanded Comm SalesPerson... × Renamed Columns

Left click on the "Commission %" drop-down arrow to verify that all the null values have been eliminated and that "Commission %" has correctly populated all the rows.



## **Operation 17: Creating calculation column.**

#### Create a Commission column based on the "Commission %" and Sales columns

Commission can be calculated as Sales \* Commission % / 100. To do this operation add a column.

Click on Custom Column under Add Column tab

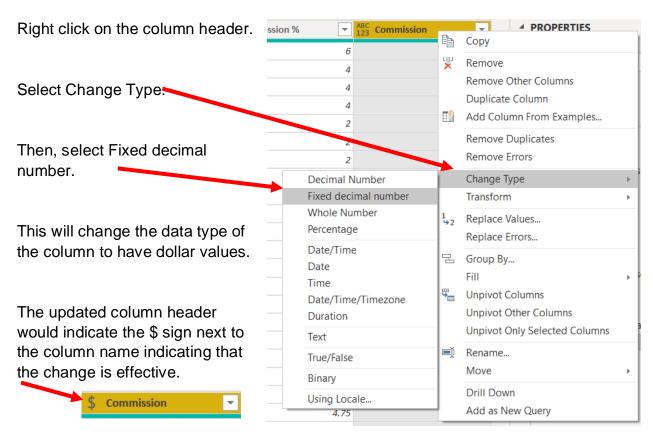
File       Home       Transform       Add Column       View         Image: Column From Examples *       Image: Column From Column       Image: Column       Image:	Help ABC Format Format From Text
In the pop-up give the new column a name	like "Commission"
Custom Column Add a column that is computed from the other columns. New column name	×
Commission	
Custom column formula 🕤	Available columns
= [Sales]*[#"Commission %"]/100	Sales Order # Salesperson # Region Sales Salesperson Title Commission %
Learn about Power BI Desktop formulas	<< insert
No syntax errors have been detected.	OK Cancel

Then enter the following formula in the Custom Column formula section:

[Sales]\*[#"Commission %"]/100

Then Click OK.

This will add a **Commission** Column at the end of the dataset.



All the steps are captured in Applied Steps.

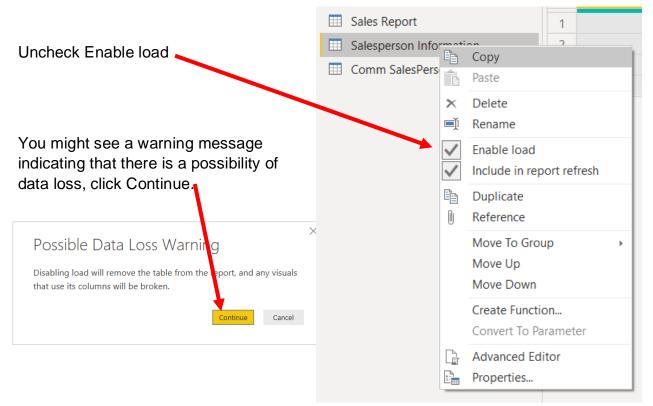
Source	₽
Navigation	₽
Removed Top Rows	₽
Promoted Headers	₽
Changed Type	
Removed Columns	
Filtered Rows	₽
Merged Queries	₽
Expanded Salesperson Inform	₽
Replaced Value	₽
Merged Queries1	₽
Expanded Comm SalesPerson	₽
Added Custom	₽
× Changed Type1	

## **Operation 18: Data Load**

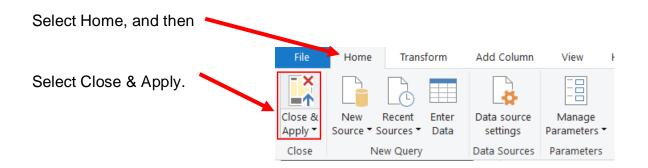
### Loading only relevant data to the front end.

Now all the information needed from the three datasets is combined into the Sales Report data set. The other 2 datasets should not be loaded to the Power BI front end.

To disable a load, right click on the query you want to disable.

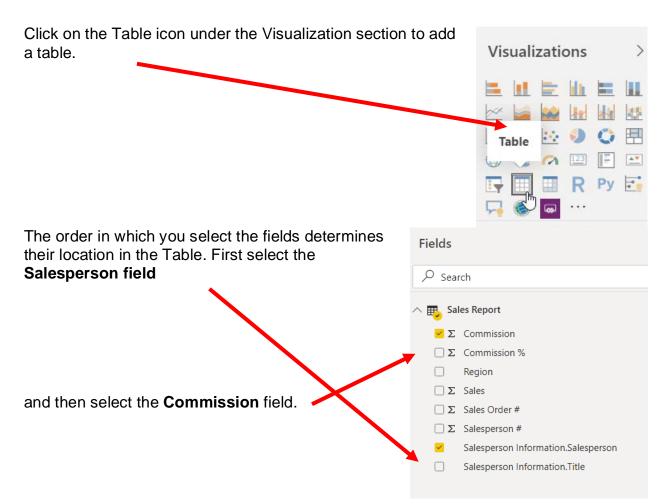


Repeat the same procedure of disabling load for "Comm SalesPerson by Region" dataset.



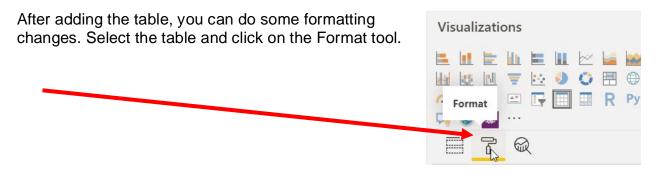
This loads the "Sales Report" data onto the front end of Power BI.

### **Operation 19: Create a "Table Visual"**

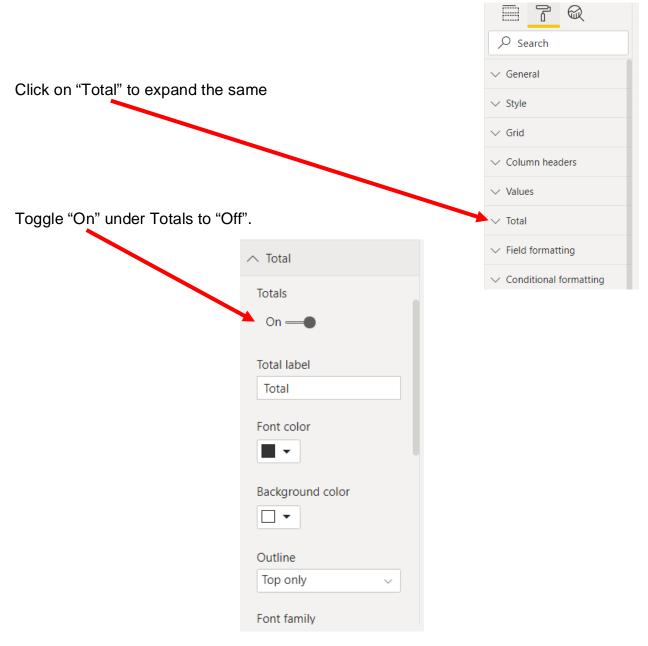


This creates a Total Commission for Salesperson report.

Salesperson	Commission
George Harrison	\$90,935.35
John Lennon	\$2,26,149.85
Paul McCartney	\$1,27,193.51
Ringo Starr	\$2,74,189.60

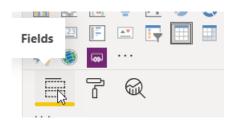


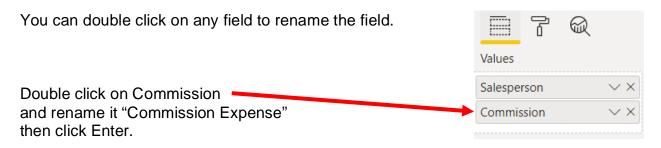
With this, you will be able to edit the various properties of the table:



Click on "Grid" to expand the options.	
	✓ Search
	✓ General
	$\checkmark$ Style
	✓ Grid
	$ \smallsetminus $ Column headers
	Outline weight
	1
Change the Text size to 24.	Text size
	lmage height

Return to Fields section by clicking on the Fields icon next to formatting.





And then rename Salesperson.

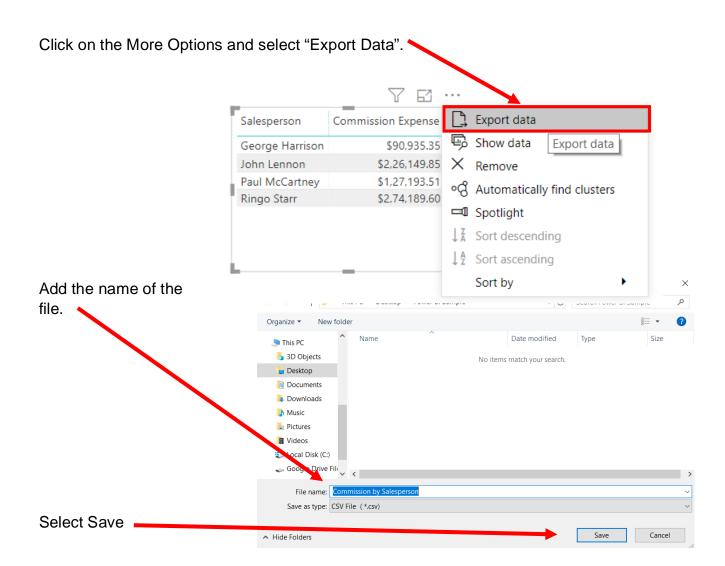
The update table should look like the following:

Salesperson	Commission Expense	$\nabla$	63	•••
George Harrison	\$90,935.35			
John Lennon	\$226,149.845			
Paul McCartney	\$127,193.505			
Ringo Starr	\$274,189.5975			

#### **Operation 20: Exporting data to Excel**

Select the table and notice that you get **More Options** indicated by 3 dots (...) on the top right or the bottom right of the table.

	T E	•••
Salesperson	Commission Expense	
George Harrison	\$90,935.35	
John Lennon	\$2,26,149.85	
Paul McCartney	\$1,27,193.51	
Ringo Starr	\$2,74,189.60	



Navigate to the location and double click to open the CSV file you just saved.

You'll notice that the data from the visual is exported into CSV.

	А	В	С	D	
1	Salesperso	Commissic	on Expense		
2	George Hai	########			
3	John Lenno	########			
4	Paul McCar	########			
5	<b>Ringo Starr</b>	########			
6					

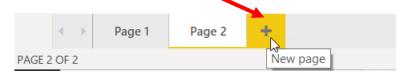
Change the columns' widths and formats.

	А	В	С
1	Salesperson	Commission Expense	
2	George Harrison	\$90,935.35	
3	John Lennon	\$226,149.85	
4	Paul McCartney	\$127,193.51	
5	Ringo Starr	\$274,189.60	
6			
7			

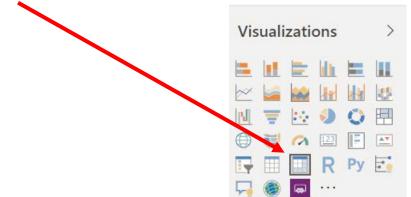
Save the file as an Excel file by using File/Save As, and then select the location and the appropriate name.

## Operation 21: Create a Matrix visual

Add a new page by clicking on the "+" icon next to the existing pages at the bottom.



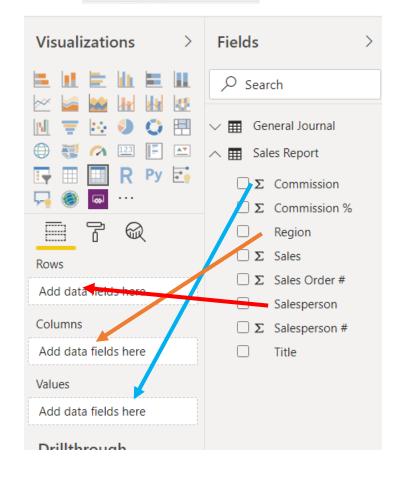
Click on the Matrix icon under the Visualization section to add a Matrix.



Once the visual is inserted, drag and drop

- 1. Salesperson to Rows
- 2. Region to Columns
- 3. Commission to Values

as indicated in the diagram.



This creates a summary Matrix providing commission for each Salesperson by Region.

son East North Sou
Harrison \$17,192.18 \$26,615.28 \$
non \$84,829.28 \$29,372.97 5
Cartney \$30,874.29 \$52,700.70 §
arr \$60,005.82 \$1,36,168.64 \$ You can resiz
\$1,92,901.57 \$2,44,857.59 \$1, on the visual movement sh visual to adju all the info re

The adjusted visual should look like the following:

George Harrison         \$17,192.18         \$26,615.28         \$26,052.39         \$21,075.50         \$90,935.35           John Lennon         \$84,829.28         \$29,372.97         \$82,074.30         \$29,873.30         \$2,26,149.85
John Lennon \$84,829.28 \$29,372.97 \$82,074.30 \$29,873.30 <b>\$2,26,149.8</b>
Paul McCartney \$30,874.29 \$52,700.70 \$15,502.96 \$28,115.56 \$1,27,193.51
Ringo Starr \$60,005.82 \$1,36,168.64 \$44,940.08 \$33,075.06 <b>\$2,74,189.6</b> 0
Total \$1,92,901.57 \$2,44,857.59 \$1,68,569.73 \$1,12,139.41 \$7,18,468.30

Explore the formatting section and make formatting changes if necessary. These changes will not be imported into Excel.

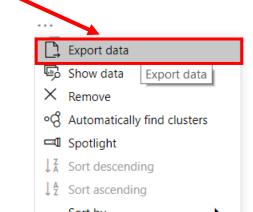
	ſ	R				
✓ Search						
∨ General						
∨ Style						

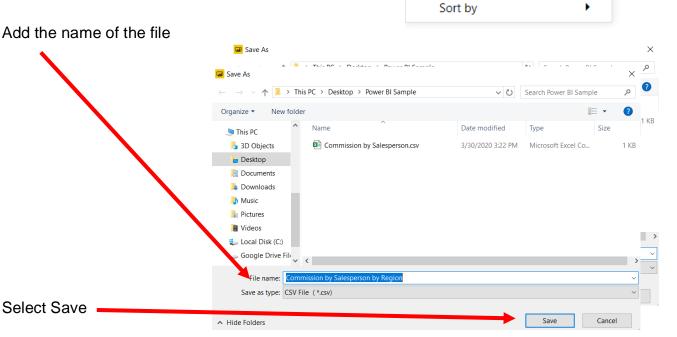
## **Operation 22: Exporting data to Excel**

Select the table and notice that you get More Options indicated by 3 dots (...) on the top right or the bottom right of the table visual.

alesperson	East	North	South	West	Total
George Harrison	\$17,192.18	\$26,615.28	\$26,052.39	\$21,075.50	\$90,935.35
John Lennon	\$84,829.28	\$29,372.97	\$82,074.30	\$29,873.30	\$2,26,149.85
Paul McCartney	\$30,874.29	\$52,700.70	\$15,502.96	\$28,115.56	\$1,27,193.51
Ringo Starr	\$60,005.82	\$1,36,168.64	\$44,940.08	\$33,075.06	\$2,74,189.60
Total	\$1,92,901.57	\$2,44,857.59	\$1,68,569.73	\$1,12,139.41	\$7,18,468.30

Click on the More Options and select "Export Data".





Navigate to the location and double click to open the CSV file you just saved.

	А	В	C
1	Salesperson	Region	Commission
2	George Harrison	East	\$17192.18
3	George Harrison	North	\$26615.28
4	George Harrison	South	\$26052.39
5	George Harrison	West	\$21075.50
6	John Lennon	East	\$84829.28
7	John Lennon	North	\$29372.97
8	John Lennon	South	\$82074.30
9	John Lennon	West	\$29873.30
10	Paul McCartney	East	\$30874.29
11	Paul McCartney	North	\$52700.70
12	Paul McCartney	South	\$15502.96
13	Paul McCartney	West	\$28115.56
14	Ringo Starr	East	\$60005.82
15	Ringo Starr	North	\$136168.64
16	Ringo Starr	South	\$44940.08
17	Ringo Starr	West	\$33075.06

The exported table in Excel would like the following:

Once the data is available in the above format, you need to insert a Pivot table to represent the data in the required format.

Select any cell in the data range. Say you select cell A1

Select Insert

Select Pivot table

This will insert a Pivot Table in a new sheet. Pivot tables help summarize the data in various formats.

File Home Insert Page	e Layout	Formul	as Data	a Review	v '
PivotTable Recommended Table PivotTables	Pictures	C Online P C Shapes C Shapes C Icons	~ 2	3D Models SmartArt Screenshot	
Tables		Illu	strations		
PivotTable	$f_x$	Salesperso	n		
Easily arrange and summarize complex data in a PivotTable.	:	D	E	F	
	ission				
FYI: You can double-click a value to	92.18				
see which detailed values make up the summarized total.	15.28				
	52.39				
⑦ Tell me more	75.50				
6 John Lennon East \$84	4829.28				

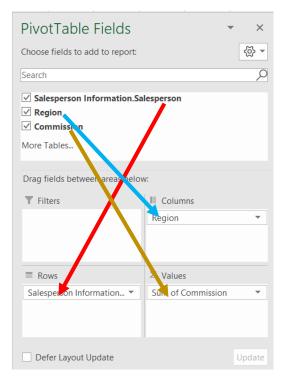
	Create PivotTable	7 ×
	Choose the data that you want to analyze Select a table or range	
	Table/Range: Commission by Salesperson by RelISAS1:SCS17	±
Select OK	Use an external data source Choose Connection Connection name: Use this workbook's Data Model	
	Choose where you want the PivotTable report to be placed      New Worksheet      Existing Worksheet	
	Location:	±
	Add this data to the state of t	Cancel

Once a Pivot table is inserted, the Pivot Table Fields are displayed .

# Drag the fields

- 1. Salesperson to Rows
- 2. Region to Columns and
- 3. Commission to Values

as indicated in the diagram.



If the Count of Commission 

appears
instead of the "Sum of Commission", left click
on Count of Commissions, select Value. Field
Setting Sum then OK.

#### This summarizes the data in the following format:

Row Labels 🔄 🗾 East		North	South	West	<b>Grand Total</b>
George Harrison	17192.18	26615.28	26052.39	21075.5	90935.35
John Lennon	84829.28	29372.97	82074.3	29873.3	226149.85
Paul McCartney	30874.29	52700.7	15502.96	28115.56	127193.51
Ringo Starr	60005.82	136168.64	44940.08	33075.06	274189.6
Grand Total	192901.57	244857.59	168569.73	112139.42	718468.31

Save and close Excel and Power BI Desktop.