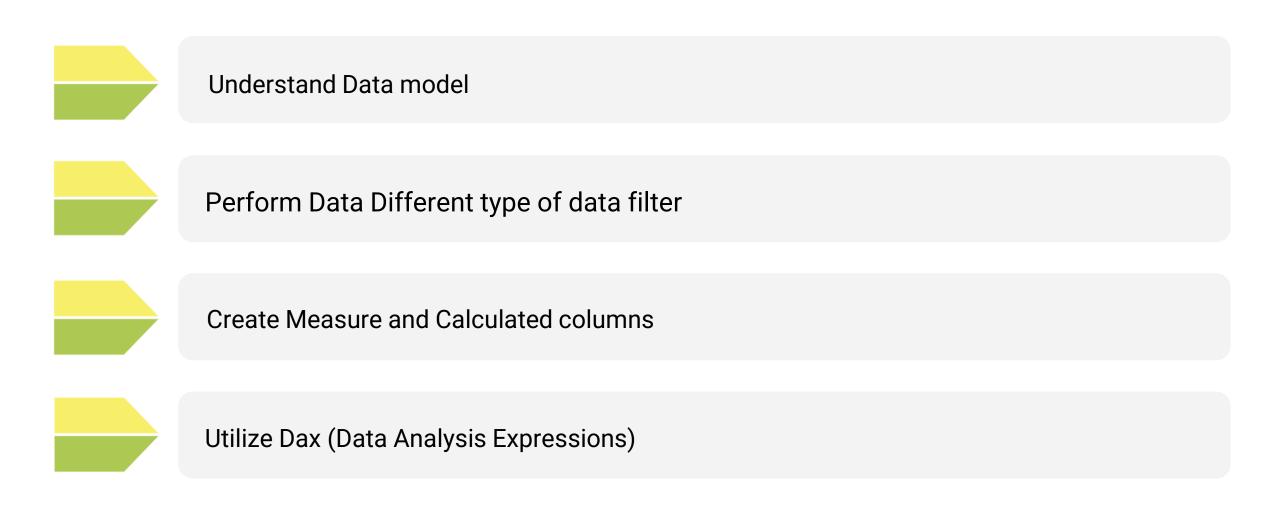
DATA MODELING IN POWER BI

By Ahmad Mousa

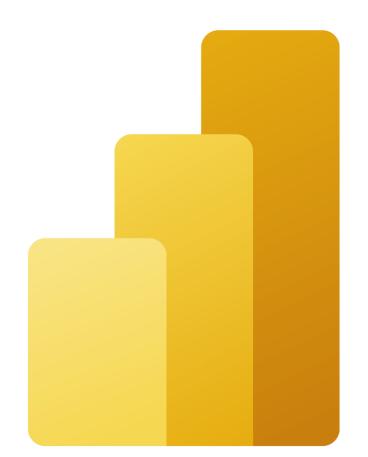
Class Objectives

By the end of this lesson, you will be able to:





Data Model



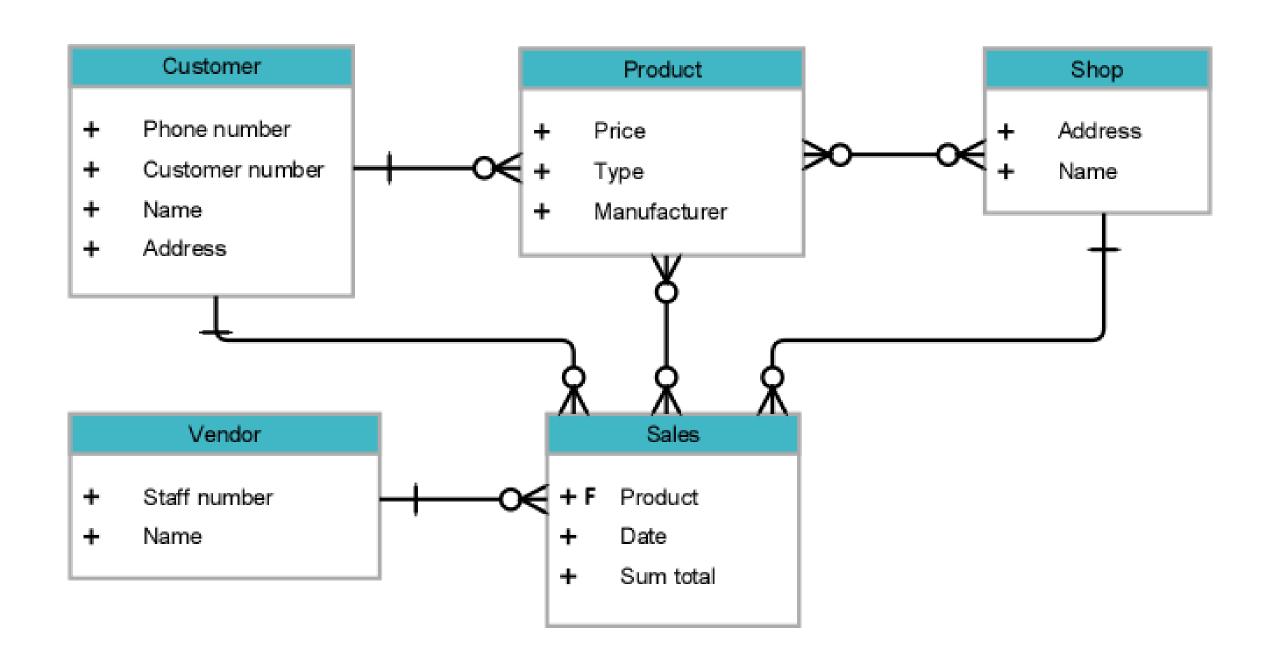


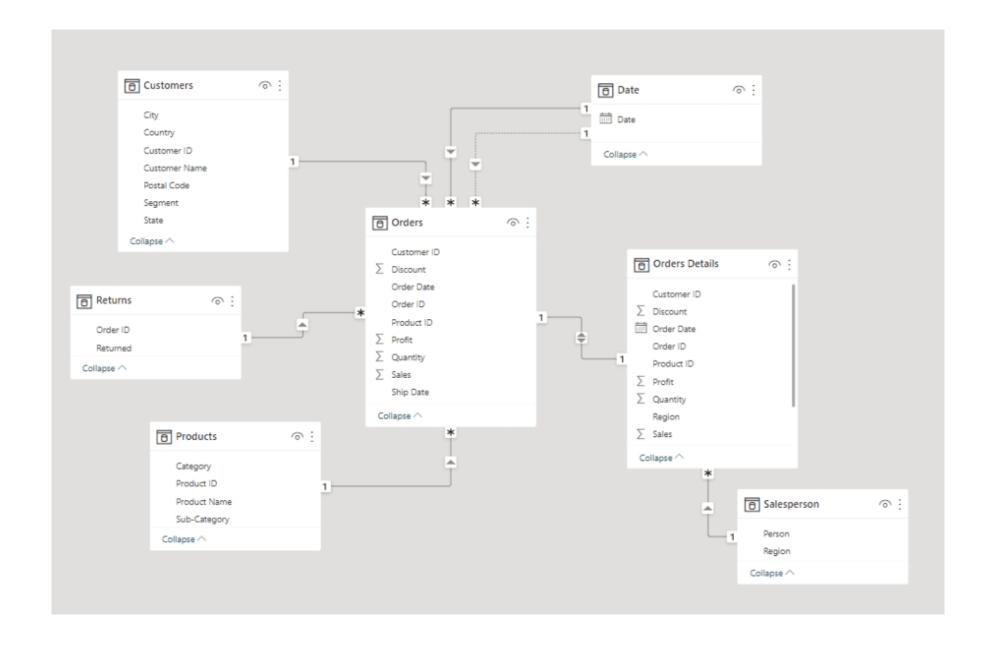
DAX

Relationships

Power Query

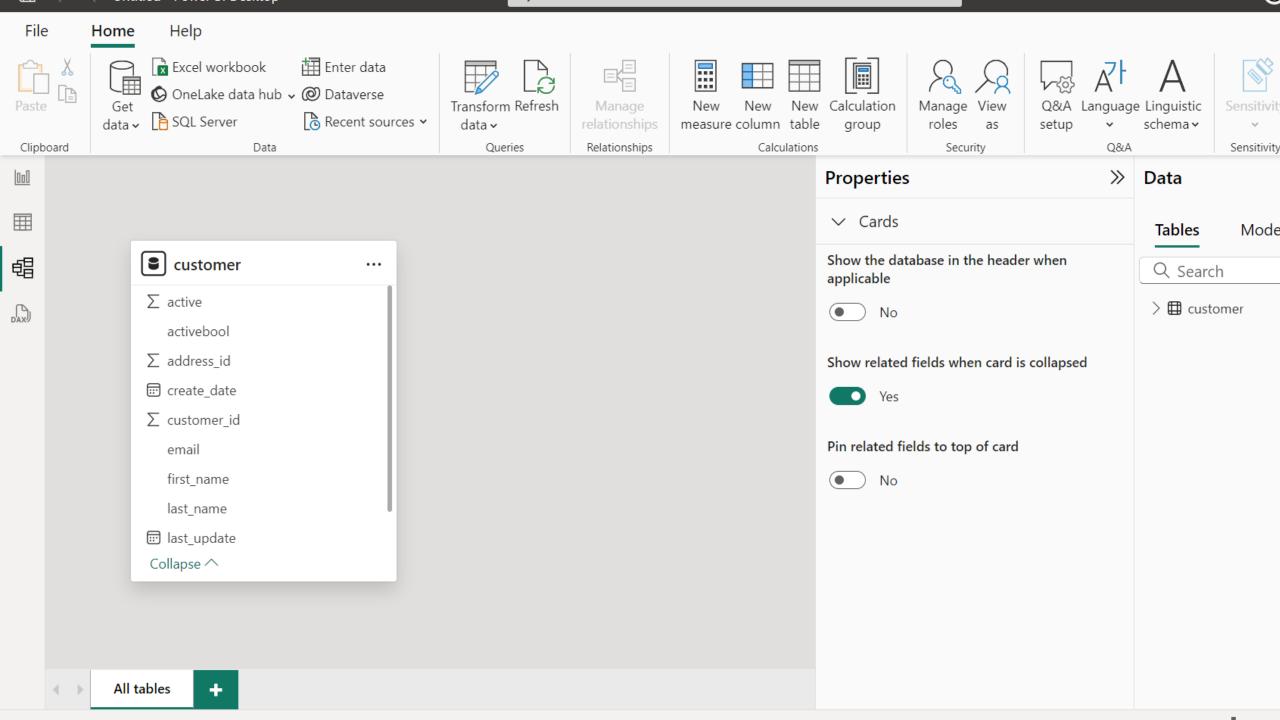
Data Modeling

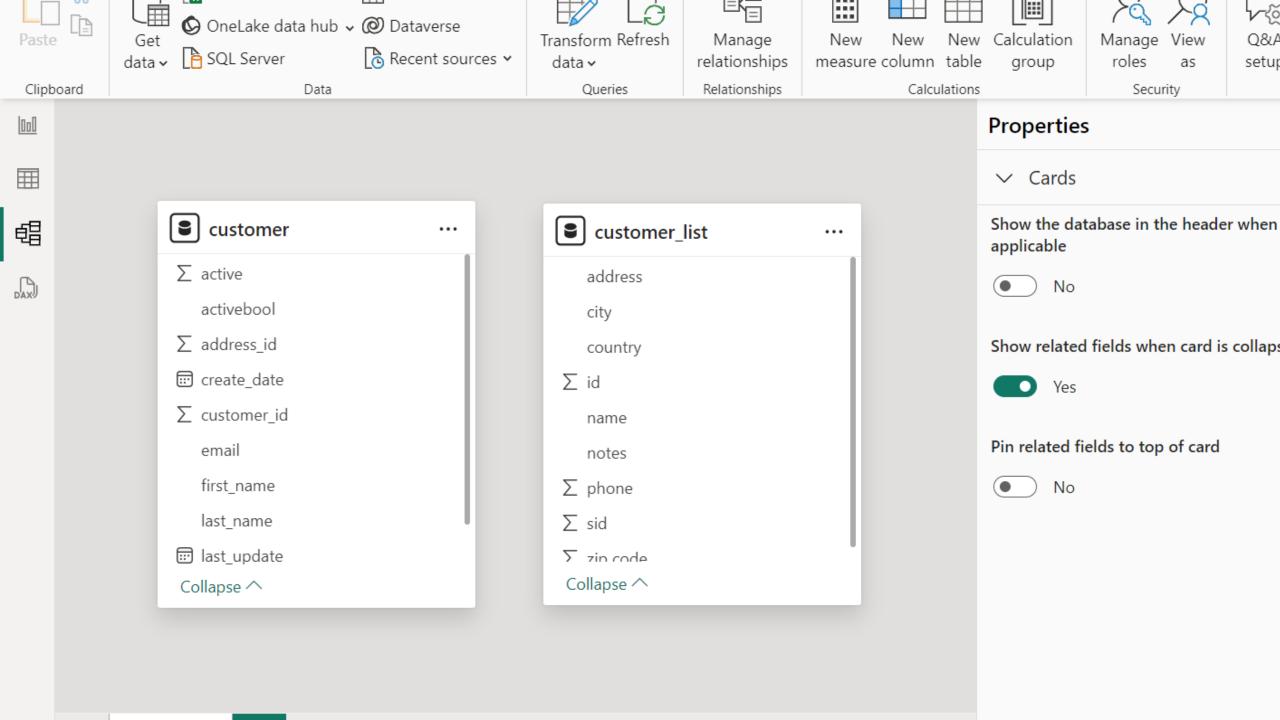


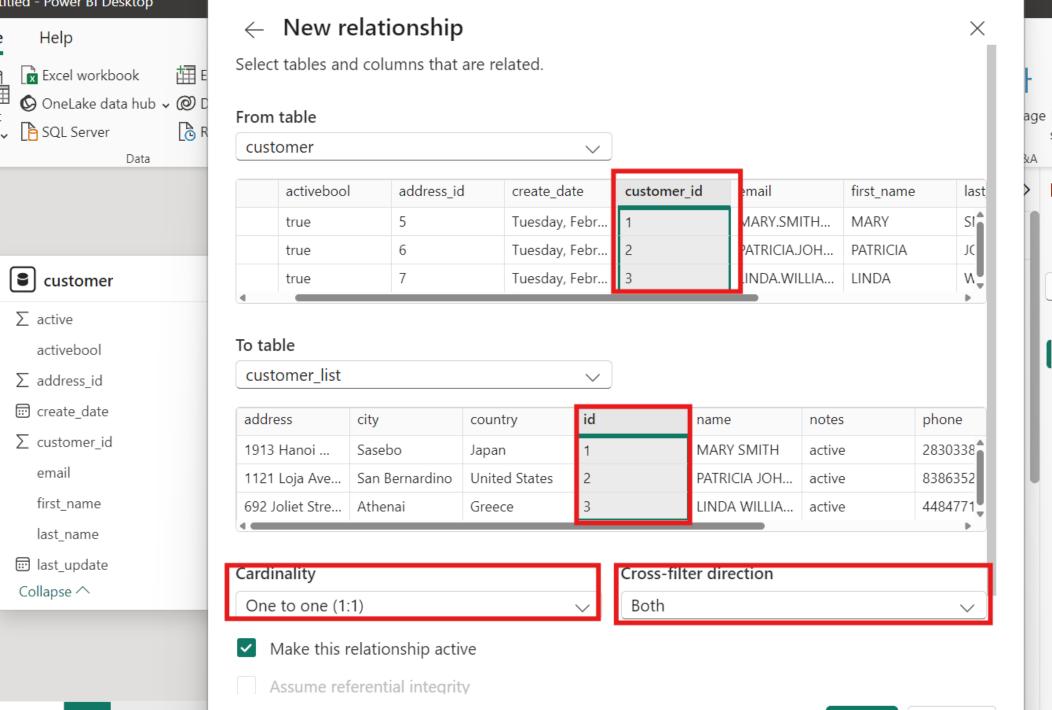


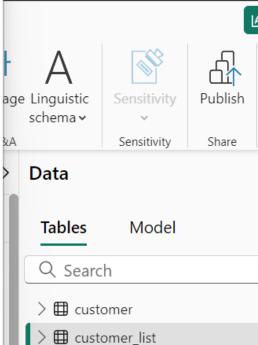
Data Modeling

Data modeling is the process of analyzing and defining all the different data types your business collects and produces, as well as the relationships

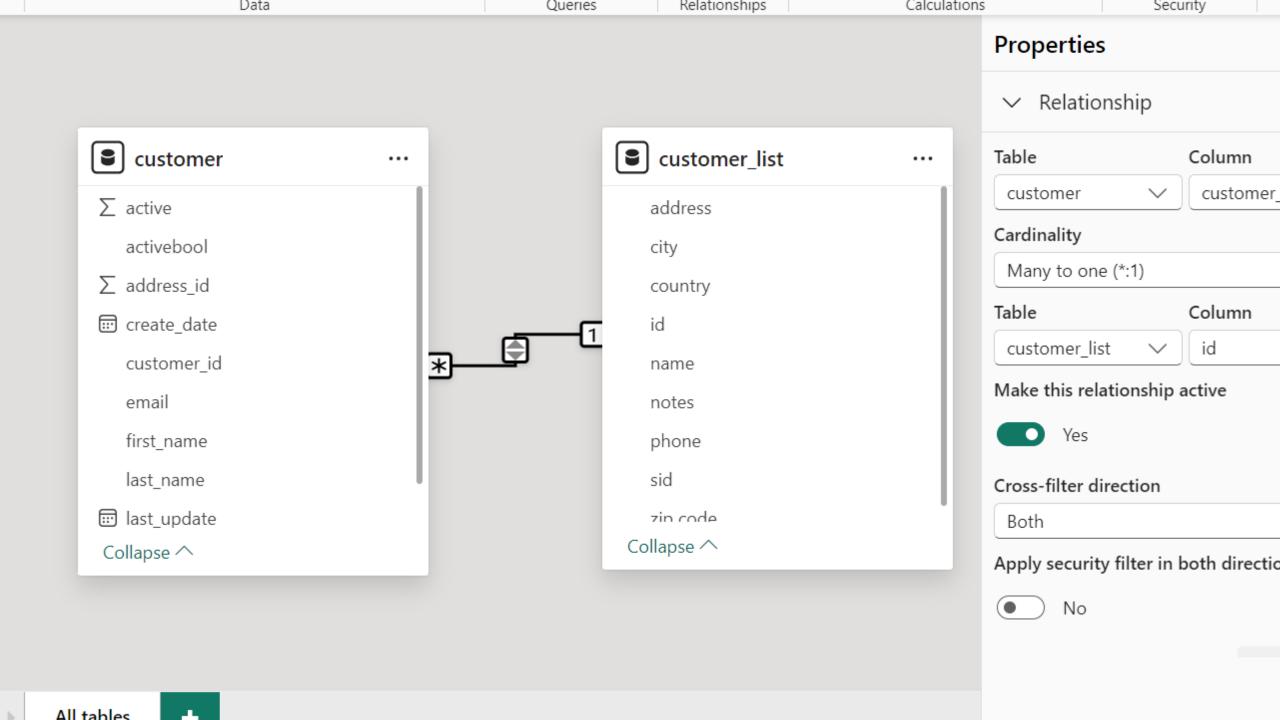


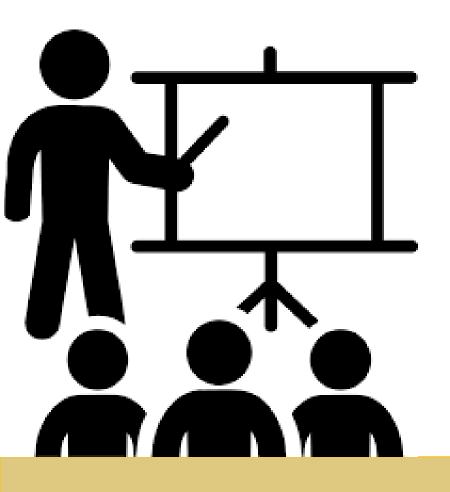






Allillad Modsa





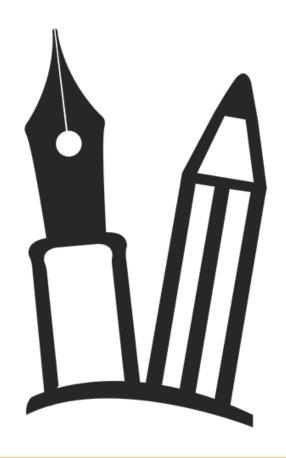
Instructor Demonstration: Modeling customer data

Suggested Time:



Questions?





Students Do: Film data Modeling

Suggested Time:



Activity: Explore Data

Film data Modeling:

- Actor.
- City
- Film
- Film actor
- Inventory
- Rental

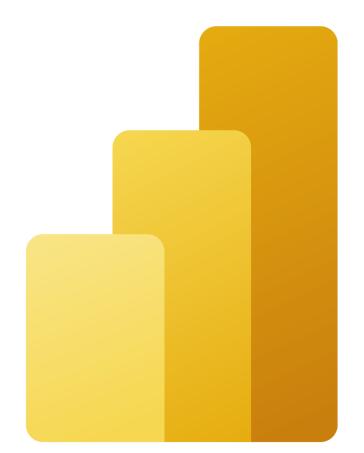
• Hint:



Don't forget to save the file once finished.



Data Filter



Product_ID	Product_Name	Product_Category	Product_Cost	Product_Price
1	Action Figure	Toys	\$9.99	\$15.99
2	Animal Figures	Toys	\$9.99	\$12.99
3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99
4 Chutes & Ladders		Games	\$9.99	\$12.99
5	Classic Dominoes	Games	\$7.99	\$9.99
6	Etch A Sketch	Art & Crafts	\$10.99	\$20.99

Lookup Table – 1 Side

Sales Sample

Sale_ID	Product Name	Units
1	Action Figure	1
2	Action Figure	2
3	Animal Figures	1
4	Animal Figures	3
5	Barrel O' Slime	1
6	Barrel O' Slime	2
7	Chutes & Ladders	1
8	Chutes & Ladders	4
9	Classic Dominoes	1
10	Classic Dominoes	2
11	Etch A Sketch	1
12	Etch A Sketch	6

Fact Table - Many/* Side

Product_ID	Product Name	Product_Category	Product_Cost	Product_Price
1	Action Figure	Toys	\$9.99	\$15.99
2	Animal Figures	Toys	\$9.99	\$12.99
3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99
4	Chutes & Ladders	Games	\$9.99	\$12.99
5	Classic Dominoes	Games	\$7.99	\$9.99
6	Etch A Sketch	Art & Crafts	\$10.99	\$20.99

Classic Dominoes

Etch A Sketch

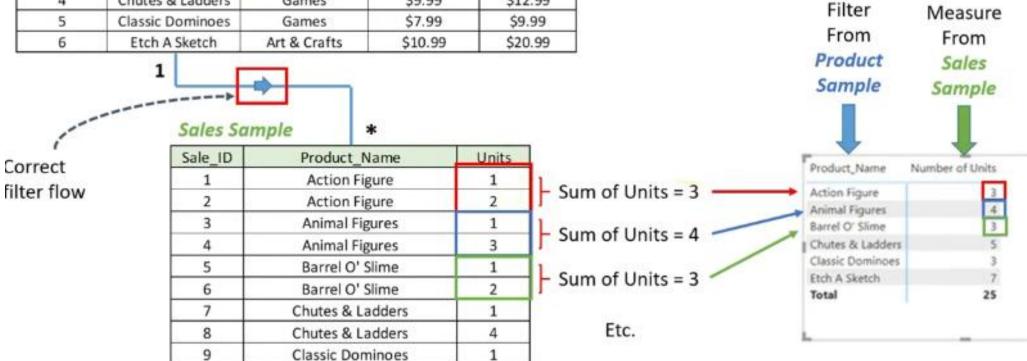
Etch A Sketch

10

11

12

No. of Units – Filter 1 to Many



2

6

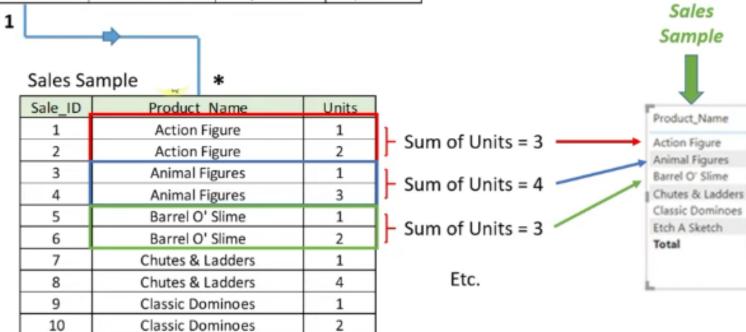
Product_ID	Product_Name	Product_Category	Product_Cost	Product_Price
1	Action Figure	Toys	\$9.99	\$15.99
2	Animal Figures	Toys	\$9.99	\$12.99
3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99
4	Chutes & Ladders	Games	\$9.99	\$12.99
5	Classic Dominoes	Games	\$7.99	\$9.99
6	Etch A Sketch	Art & Crafts	\$10.99	\$20.99

Etch A Sketch

Etch A Sketch

11

12



1

6

Filter

From

Measure

From

Sales

Sample

Number of Units

25

Product_ID	Product Name	Product Category	Product_Cost	Product_Price
1	Action Figure	Toys	\$9.99	\$15.99
2	Animal Figures	Toys	\$9.99	\$12.99
3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99
4 Chutes & Ladders		Games	\$9.99	\$12.99
5 Classic Dominoes		Games	\$7.99	\$9.99
6	Etch A Sketch	Art & Crafts	\$10.99	\$20.99

Distinct Category = 1

Distinct Category = 1 -

3 distinct

categories

Product_Name No. of Categories

Action Figure 1

Animal Figures 1

Barrel O' Slime 1

Chutes & Ladders 1

Classic Dominoes 1

Etch A Sketch 1

Total 3

Sales Sample

*

Sale_ID	Product_Name	Units
1	Action Figure	1
2	Action Figure	2
3	Animal Figures	1
4	Animal Figures	3
5	Barrel O' Slime	1
6	Barrel O' Slime	2
7	Chutes & Ladders	1
8	Chutes & Ladders	4
9	Classic Dominoes	1
10	Classic Dominoes	2
11	Etch A Sketch	1
12	Etch A Sketch	6

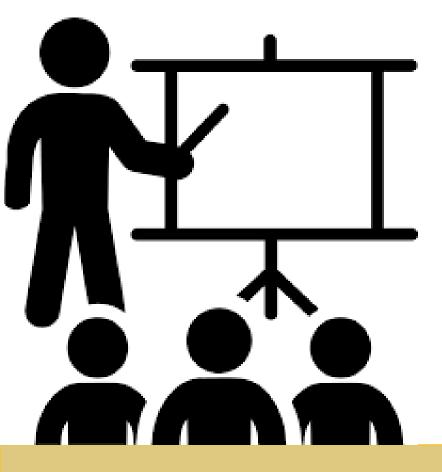


Filter From Product Sample



From Product Sample

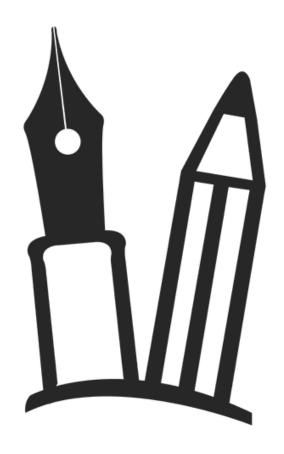
Product_ID	Product_Name	Product Category	Product_Cost	Product_Price		Product_Name	No. of Categorie
1	Action Figure	Toys	\$9.99	\$15.99	Distinct Category = 1	Action Figure	
2	Animal Figures	Tovs	\$9.99	\$12.99	Distillet Category = 1	Animal Figures	L
3	Barrel O' Slime	Art & Crafts	\$1.99	\$3.99		Barrel O' Slime	
4	Chutes & Ladders	Games	\$9.99	\$12.99	Distinct Category = 1	Chutes & Ladders	
5	Classic Dominoes	Games	\$7.99	\$9.99	Distinct category - 1	Classic Dominoes	
6	Etch A Sketch	Art & Crafts	\$10.99	\$20.99		Etch A Sketch Total	L
	Sale ID		k lame	Units		Filter	Measure
	Sales S	ample	*			-	
	Sale_ID	Product_N	lame	Units	``		
	1	Action Fig	gure	1	ilter <i>can not</i> flow from	From	From
	2	Action Fig	gure	2	Many to 1, therefore	Sales	Product
	3	Animal Fig	gures	1	the measure ignores	(Sample	Sample
	4	Animal Fig	ures	3	the filter in the matrix -	,	
	5	Barrel O' S	Slime	1			
	6	Barrel O' S	Slime	2	and returns "3" for all product names		
	0	*					
	7	Chutes & La	adders	1	product names		
	-	Chutes & La		4	(incorrect)		
	7		dders		· ·		
	7 8	Chutes & La	adders ninoes	4	· ·		
	7 8 9	Chutes & La Classic Don	ninoes ninoes	1	· ·	s Filtor A	Annu to



Instructor Demonstration: Data filter on the store data

Suggested Time:



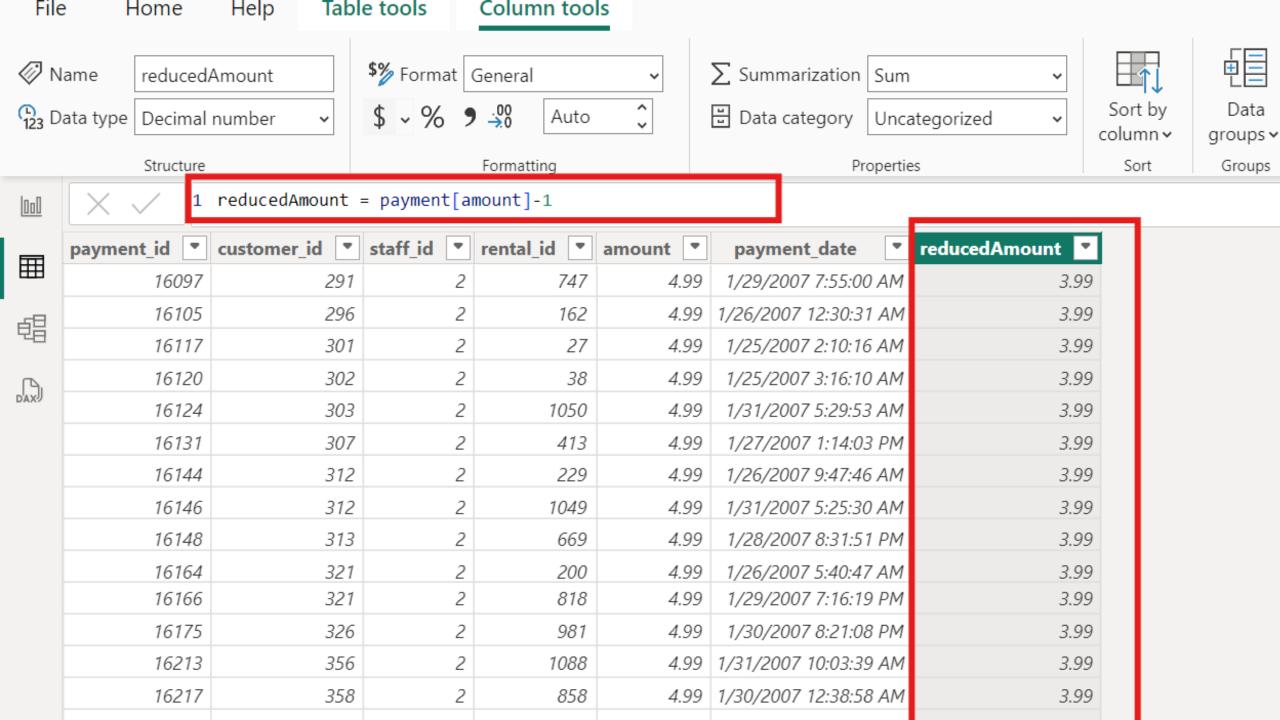


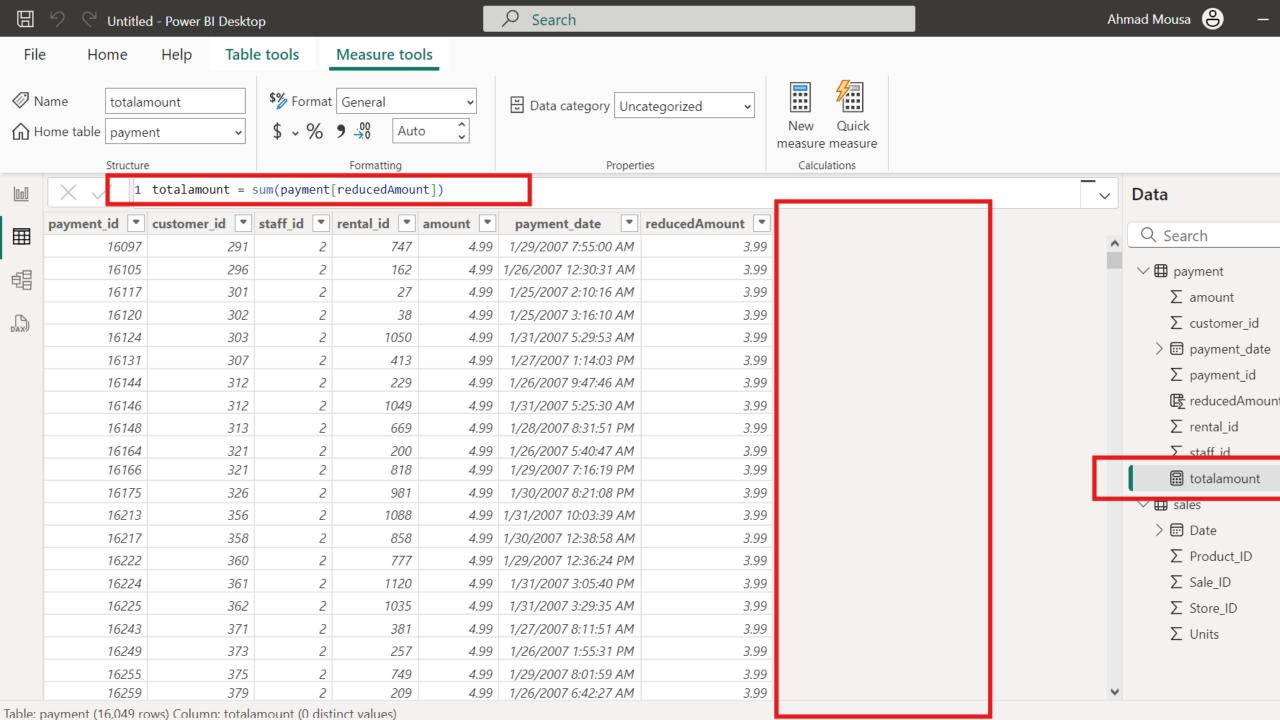
Everyone Do: Data filter store dataset

Suggested Time:











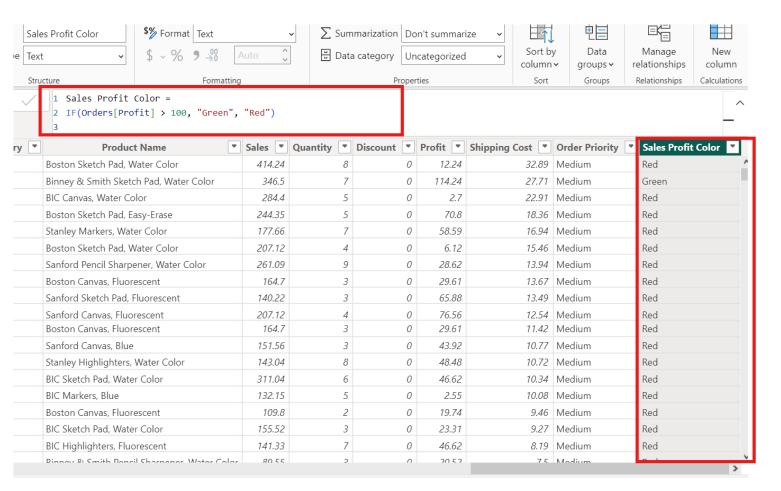
Instructor Demonstration: Calculated column and Measure

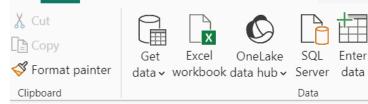
Suggested Time:



DAX







← Back to report

Lansing	412.07
Evanston	411.88
Potosí	411.76
Shinyanga	411.64
San Martín	411.50
Bissau	411.39
Viersen	411.34
Guntur	410.46
Villeneuve-	410.43
d'Ascq	
Uberaba	410.35
South Shields	409.14
Kitchener	408.87
Castres	407.79
Duque de	407.76
Caxias	
Grigny	407.07
Saint-Cyr-sur-	406.31
Total	1,467,457.29

otal 1,467,457.29

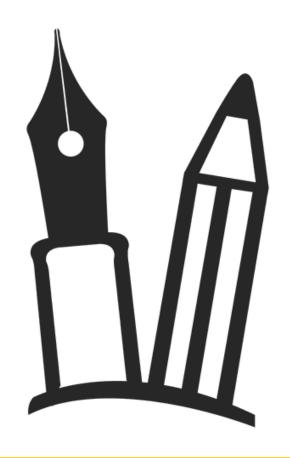
f 1



Instructor Demonstration: Dax logic

Suggested Time:





Everyone Do: Dax traffic data

Suggested Time:



Instructions:

Try to create visualizations for the following questions:

- What are the most dangerous hours that produce casualties?
- What are the most dangerous months that produce casualties?
- What speed limit is the most common for accidents to occur in?
- Does the speed limit impact the average number of casualties?
- What are the most common weather conditions for accidents?
- Do light conditions have any impact on accidents?
- Are there any possible problems or issues with these visualizations?
- Use calculations and logical statements to enhance your visualizations,



