

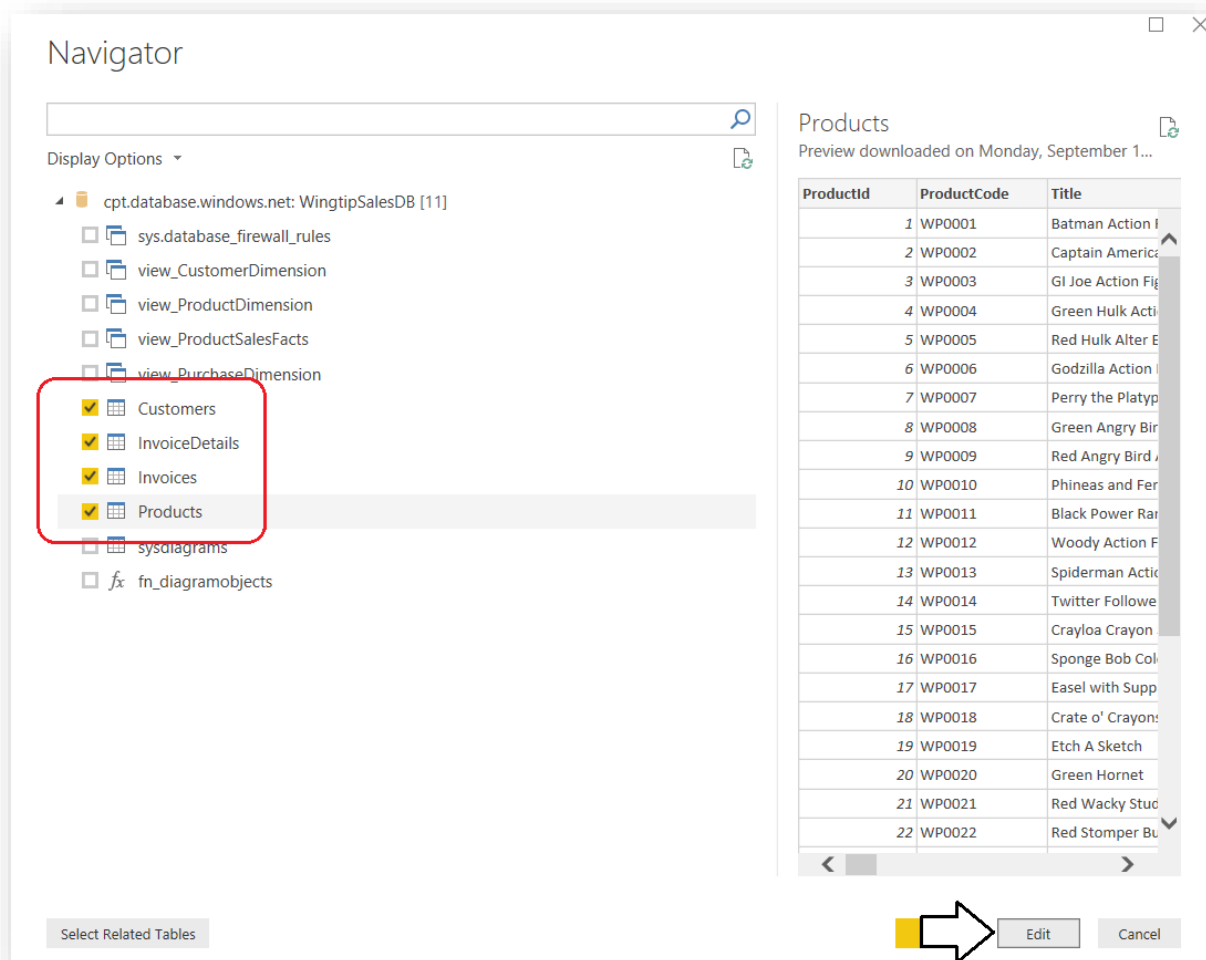


POWER QUERY ASSIGNMENT

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Q1) Create a new Power BI workbook and Import ProductSalesTable.xlsx data into it.

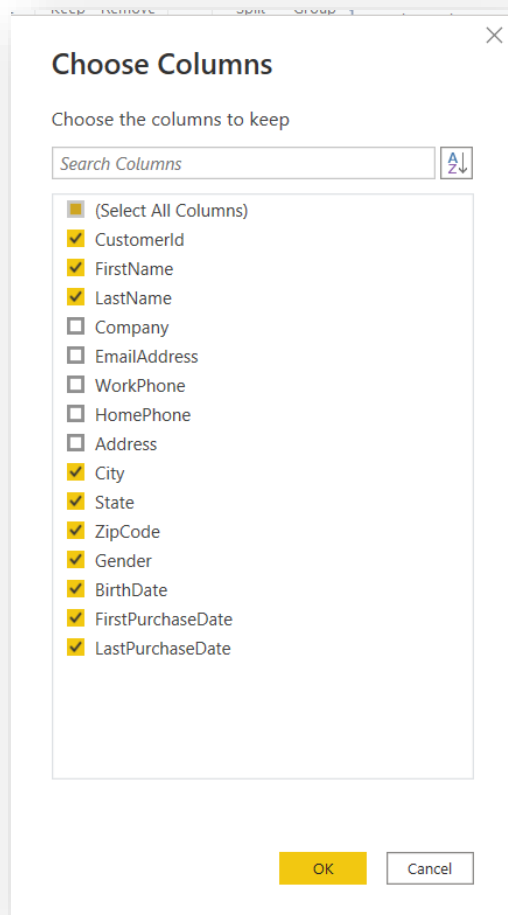
When you inspect the **Power Query Editor** window, you should be able to observe that Power BI Desktop has created a new query for each of the 4 tables that selected in the **Navigator** dialog. Make sure that four tables are in place



Q2) Design Queries to Transform and Reshape Customer Sales Data –

Go to the customers' table. Select only a list of columns and ignore the rest of the columns. In the Choose Columns dialog, begin by clicking on the (Select all Columns) checkbox at the top to unselect all columns. Next, select the checkboxes for the following columns.CustomerId

- FirstName, LastName, City, State, Zipcode, Gender, BirthDate, FirstPurchaseDate, LastPurchaseDate



Q3) In the “Customers” table, merge the **FirstName** column and the **LastName** column into a single column named **Customer**.

Before Transformation

AB_C FirstName	AB_C LastName
Santiago	Hubbard
Nicky	Rios
Kirk	Sexton
Regina	Mayer
Cyril	Mathews
Kris	Booker
Tracy	Christensen
Reed	Glover
Julia	Medina
Tommie	Herring
Walker	Gardner
Nicole	Soto
Sandy	Coleman
Bonita	Alvarez
Stella	Potter
Raymond	Vazquez
Billie	Miller

After Transformation

AB_C Customer
Santiago Hubbard
Nicky Rios
Kirk Sexton
Regina Mayer
Cyril Mathews
Kris Booker
Tracy Christensen
Reed Glover
Julia Medina
Tommie Herring
Walker Gardner
Nicole Soto
Sandy Coleman
Bonita Alvarez
Stella Potter
Raymond Vazquez
Billie Miller

Q4) Modify the query so that the **Gender** column returns values of **Male** and **Female** instead of **M** and **F**.

Before Transformation

AB Gender
M
M
M
F
M
M
M
M
F
M
M

After Transformation

AB Gender
Male
Male
Male
Female
Male
Male
Male
Male
Female
Male
Male

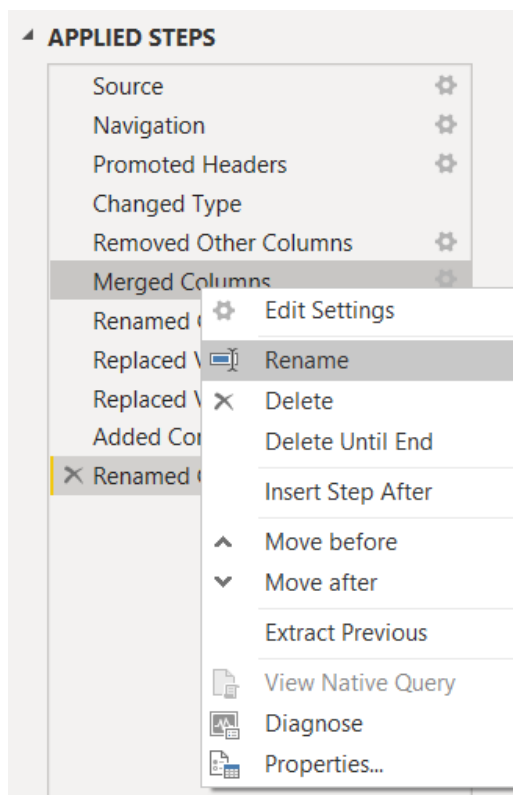
Q5) Go to the customers table. Add a new conditional column named “Customer Type” to indicate whether the customer is a repeat customer or not. The customer is a repeat customer when the FirstPurchaseDate column and the LastPurchaseDate column are not equal indicating the customer has made two or more purchases.

Before Transformation		After Transformation	
FirstPurchaseDate	LastPurchaseDate	FirstPurchaseDate	LastPurchaseDate
28-01-2012	28-01-2012	28-01-2012	28-01-2012
28-01-2012	28-01-2012	28-01-2012	28-01-2012
28-01-2012	28-01-2012	28-01-2012	28-01-2012
28-01-2012	28-01-2012	28-01-2012	28-01-2012
28-01-2012	28-01-2012	28-01-2012	28-01-2012
28-01-2012	28-01-2012	28-01-2012	28-01-2012
29-01-2012	22-11-2015	29-01-2012	22-11-2015
29-01-2012	02-10-2015	29-01-2012	02-10-2015
29-01-2012	29-01-2012	29-01-2012	29-01-2012
29-01-2012	06-05-2015	29-01-2012	06-05-2015
29-01-2012	29-01-2012	29-01-2012	29-01-2012
29-01-2012	29-01-2012	29-01-2012	29-01-2012
29-01-2012	19-12-2015	29-01-2012	19-12-2015

After Transformation

FirstPurchaseDate	LastPurchaseDate	Customer Type
28-01-2012	28-01-2012	One-time Customer
28-01-2012	28-01-2012	One-time Customer
28-01-2012	28-01-2012	One-time Customer
28-01-2012	28-01-2012	One-time Customer
28-01-2012	28-01-2012	One-time Customer
28-01-2012	28-01-2012	One-time Customer
29-01-2012	22-11-2015	Repeat Customer
29-01-2012	02-10-2015	Repeat Customer
29-01-2012	29-01-2012	One-time Customer
29-01-2012	06-05-2015	Repeat Customer
29-01-2012	29-01-2012	One-time Customer
29-01-2012	29-01-2012	One-time Customer
29-01-2012	19-12-2015	Repeat Customer

Q6) Rename each and every transformation step. Execute the Customers query to see the results in the main Power BI Desktop window - Click the Close and Apply.



Q7) Using Power Query to Transform and Reshape Product Data. Keep only the below given columns

☐ (Select All Columns)

☒ ProductId

☒ ProductCode

☒ Title

☒ Description

☒ ProductCategory

☒ UnitCost

☒ ListPrice

☐ Color

☐ MinimumAge

☐ MaximumAge

Q8) Rename the **Title** column to **Product**

Before Transformation

A ^B _C Title
Batman Action Figure
Captain America Action Figure
GI Joe Action Figure
Green Hulk Action Figure
Red Hulk Alter Ego Action Figure
Godzilla Action Figure
Perry the Platypus Action Figure

After Transformation

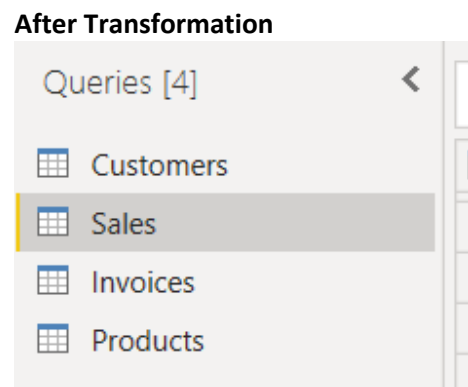
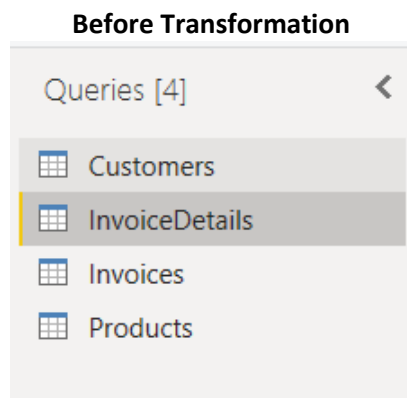
A ^B _C Product
Batman Action Figure
Captain America Action Figure
GI Joe Action Figure
Green Hulk Action Figure
Red Hulk Alter Ego Action Figure
Godzilla Action Figure
Perry the Platypus Action Figure

Q9) Split the **ProductCategory** column into two separate columns named **Category** and **Subcategory**.

Before Transformation		After Transformation	
A ^B _C ProductCategory ▾ 1.		A ^B _C Category ▾	A ^B _C SubCategory ▾
Action Figures > Tough Guys		Action Figures	Tough Guys
Action Figures > Tough Guys		Action Figures	Tough Guys
Action Figures > Tough Guys		Action Figures	Tough Guys
Action Figures > Tough Guys		Action Figures	Tough Guys
Action Figures > Tough Guys		Action Figures	Tough Guys
Action Figures > Tough Guys		Action Figures	Tough Guys

Q10) Rename all the transformations and Apply your changes to the **Products** table.
Click the **Close and Apply**

Q11) Open the InvoiceDetails table. Update the name of the InvoiceDetails query to Sales



Q12) Merge the Sales table and Invoices table based on invoiceId

Before Transformation

ProductId
22
22
22
17
18
18
16
6
11
1

After Transformation

ProductId	Invoices
22	Table
22	Table
22	Table
17	Table
18	Table
18	Table
16	Table
6	Table
11	Table
1	Table
3	Table
6	Table
13	Table

Q13) Use expand button inside the column header of the Invoices column to display the Columns to Expand dialog. Show only InvoiceDate column and the CustomerId column.

Before Transformation

ProductId	Invoices
22	Table
22	Table
22	Table
17	Table
18	Table
18	Table
16	Table
6	Table

After Transformation

ProductId	Invoices.InvoiceDate	Invoices.CustomerId
22	28-01-2012	1
22	28-01-2012	1
22	28-01-2012	2
17	28-01-2012	3
18	28-01-2012	3
18	28-01-2012	3
16	28-01-2012	4
6	28-01-2012	5
11	28-01-2012	6
1	28-01-2012	6
3	29-01-2012	7
6	29-01-2012	7
13	29-01-2012	8
16	29-01-2012	9
16	29-01-2012	10
18	29-01-2012	11

Q14) Merge the Sales table and Products table based on ProductId. Keep only Unitcost from products data

After merging

Invoices.InvoiceDate	Invoices.CustomerId	Products
28-01-2012	1	Table
28-01-2012	1	Table
28-01-2012	2	Table
28-01-2012	3	Table
28-01-2012	3	Table
28-01-2012	3	Table
28-01-2012	4	Table
28-01-2012	5	Table

Final Result

Invoices.InvoiceDate	Invoices.CustomerId	UnitCost
28-01-2012	1	21.5
28-01-2012	1	21.5
28-01-2012	2	21.5
29-01-2012	14	21.5
28-01-2012	6	6.85
29-01-2012	12	6.85
29-01-2012	17	6.85
29-01-2012	7	6.1

Q15) Add a new custom column named **ProductCost** by taking **Quantity** field multiplied by the **UnitCost** field

Result

ABC 123	ProductCost
	86
	21.5
	43
	21.5
	27.4
	20.55
	27.4
	24.4
	18.3
	12.2

Hint: Use Custom columns

Custom Column

Add a column that is computed from the other columns.

New column name
ProductCost

Custom column formula ⓘ
= [Quantity]*[UnitCost]

Available columns
Quantity
SalesAmount
InvoiceId
ProductId
Invoices.InvoiceDate
Invoices.CustomerId
UnitCost

<< Insert

[Learn about Power Query formulas](#)

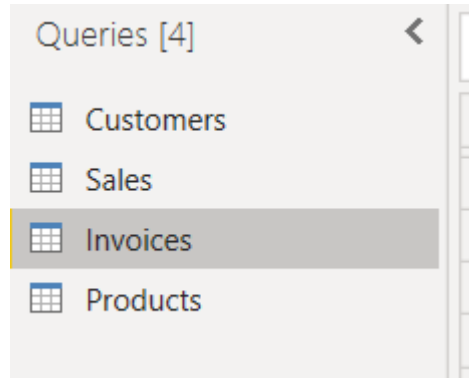
✓ No syntax errors have been detected.





OK Cancel

Q16) Rename all the transformations and Apply your changes to the **Sales** table. Click the **Close and Apply**

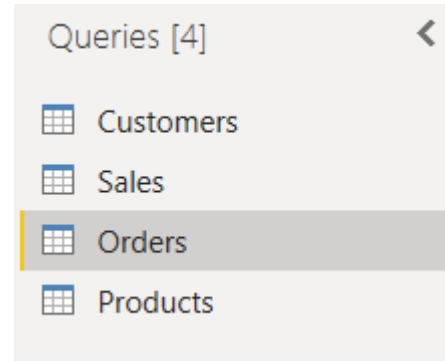
Q17) Take the “Invoices” Table. Rename it to “Orders”; Make the necessary changes in the merge query with sales





Before Transformation



Queries [4]	
	Customers
	Sales
	Invoices
	Products

After Transformation



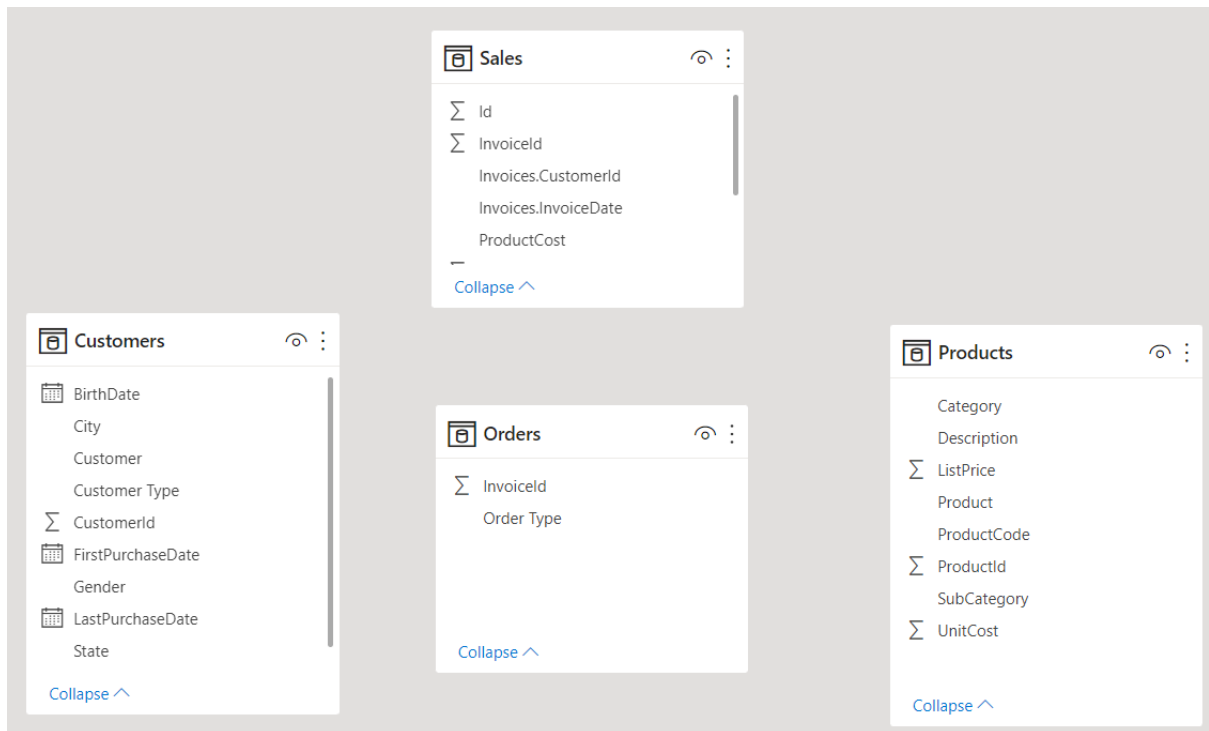
Queries [4]	
	Customers
	Sales
	Orders
	Products

Q18) In the invoice type column, replace the values with the below-given values
InPerson → Store Purchase; MailOrder → Mail Order Purchases; Online → Online Purchases.

Before Transformation		After Transformation	
A ^B _C	InvoiceType	A ^B _C	InvoiceType
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases
	InPerson		Store Purchases

Q19) Change the name of the InvoiceType column to Order Type. Rename all the transformations and Apply your changes to the Orders table. Click the Close and Apply

Q20) Go to model view and arrange fact table and lookup tables. “Sales” is the fact table. Remove all the table relationships. The result should look like the image given below.



Q21) Go to model view and start connecting the tables. Connect Sales and Customers tables based on CustomerId. Connect Sales and orders tables based on InvoiceId. Connect Sales and Products tables based on ProductId

Result

