Power BI Questions (Intermediate Financial Reporting 2)

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2021-04-14

POWER BI QUESTIONS (INTERMEDIATE FINANCIAL REPORTING 2)

Question 1

Extravagant Coffee Ltd. is a small coffee shop located in Golden, British Columbia. You, CPA, the product manager, are approached by your CEO, Haneen Singh, who says, "I'm so excited! We just downloaded this new software, Power BI, which is like Excel but way more powerful. It's a data analysis tool that will be great for creating visual presentations for our quarterly presentation for the board. But before we roll it out, I'd like you to create a presentation for me so that I can see its capabilities. I'll send you an email shortly, detailing what you should create. I hope you're as excited as I am!"

Here is a summary of the data you will be working with:

1. ITEMCATEGORY:
   - CODE: This is the product category code, representing either coffee or donuts.
   - Description: This is the product category, either coffee or donuts.
2. ITEMTYPE:
   - Code: This is the product code, representing each product.
   - Item type: This is a list of all the products.
   - ITEM CATEGORY: This is the product category code, representing either coffee or donuts.
   - SUPPLIER: This is the supplier code, representing the supplier of each product (corresponds with the Code from the SUPPLIER table).
3. PORDER:
   - NUMBER: This is the sales order number for the daily sales.
   - DATE: This is the date the sales occurred.
4. PORDERLINE:
   - PORDER: This is the PORDER number (corresponds with the NUMBER from the PORDER table).
   - Item Type: This is the product code (corresponds with the Code from the ITEMTYPE table).
   - Quantity: This is the amount of the product sold in the order.
5. SUPPLIER:
   - CODE: This is the supplier code.
   - SUPPLIER: This is the name of the supplier.
   - STREET, CITY, PROVINCE: This is the address of the supplier.

The data files have been preloaded into Power BI for you.

Hint: Your visualization must be selected before you can work on it. To select your visualization, simply click on it in Power BI.

Task #1

Haneen has provided you with a Power BI file (PP7_data.pbix) with all of the information already imported. Open this file.

The board is always interested in the supplier and product information. Haneen would like you to prepare a number of visualizations to help her present this information to them. You have heard that the card visualization is a useful tool for displaying numbers, such as sums or averages, so you decide to create cards for the data. Haneen reminds you to ensure it is attractive and easy to interpret.

A dashboard is a graphical user interface containing multiple visualizations on a single page. Haneen would like you to create a dashboard that shows the following:

i. A card visualization of how many suppliers there are
ii. A card visualization of how many product categories there are
iii. A card visualization of how many different product types there are

Task #2

Haneen wants to gain a better understanding of which suppliers provide which products. She also thinks the board will be very impressed with the map visual, so she asks you to show where the suppliers are located and to show a bubble that visualizes the number of suppliers in each province. You know you can do this by using the map visualization.

Start a new tab, name it “Tables”, and then do the following:

i. Create tables showing the following:
    a) Number of items provided by each supplier
    b) Item types provided by each supplier

Start a new tab by duplicating the “Tables” page and rename the page “Bar Chart”.

ii. Create a bar chart number showing the number of item types provided by each supplier *(demonstrating different ways of presenting the same data).*

Create a new tab and name it “Map”.

iii. Create a map with a bubble that will give a visual indication of the different number of suppliers and where they are located.

Question 2

Electro-cycle Inc. is a privately-owned business located in Vancouver. It has found success with the production of electronic bikes (e-bikes), a growing trend in the cycling industry. E-bikes give people the option to use battery power as an alternative to pedalling.

Electro-cycle was founded eight years ago by two brothers, Ryan and Rob, who love the outdoors. Ryan suffers from severe asthma and had to stop cycling until he discovered e-bikes, so he is very passionate about the business. Both brothers are very involved with the business and have a hard time giving up any control. Given that the business is seasonal, growth is heavily dependent on the weather; however, the company is seeing a steady growth pattern overall.

Third-quarter results are in, and cost of goods sold is higher than anticipated. A direct material that had some variance in the period is the aluminum used in the bikes. In order to offset the higher cost of aluminum, the board wants to look at the motor suppliers to see if material costs can be reduced in this area. Electro-cycle currently uses a local supplier, Cumba, with a cost of $125 per unit. Use Power BI to provide an analysis of the supplier options to present to the board.

The board would like you to prepare the following:

i. Create a card visualization of how many suppliers there are.

ii. Create a map visualization of the supplier locations.

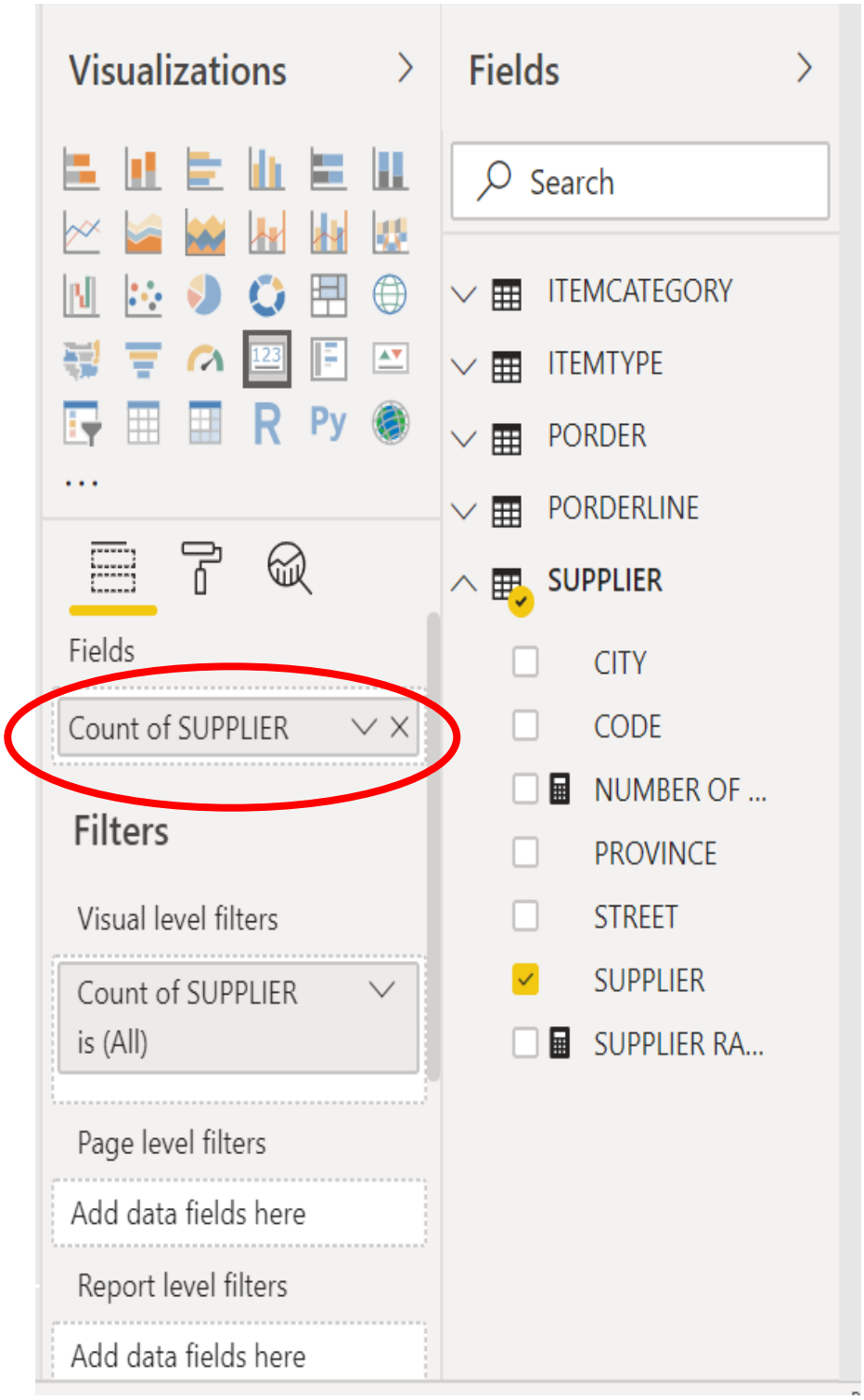
Hint: Your visualization must be selected before you can work on it. To select your visualization, simply click on it in Power BI.

Solutions

Solution to Question 1

Start by Installing Power BI. Download the data files from D2L to your desktop. Open Power BI and click the File tab. Click Open and locate the PP7_data.pbix file.

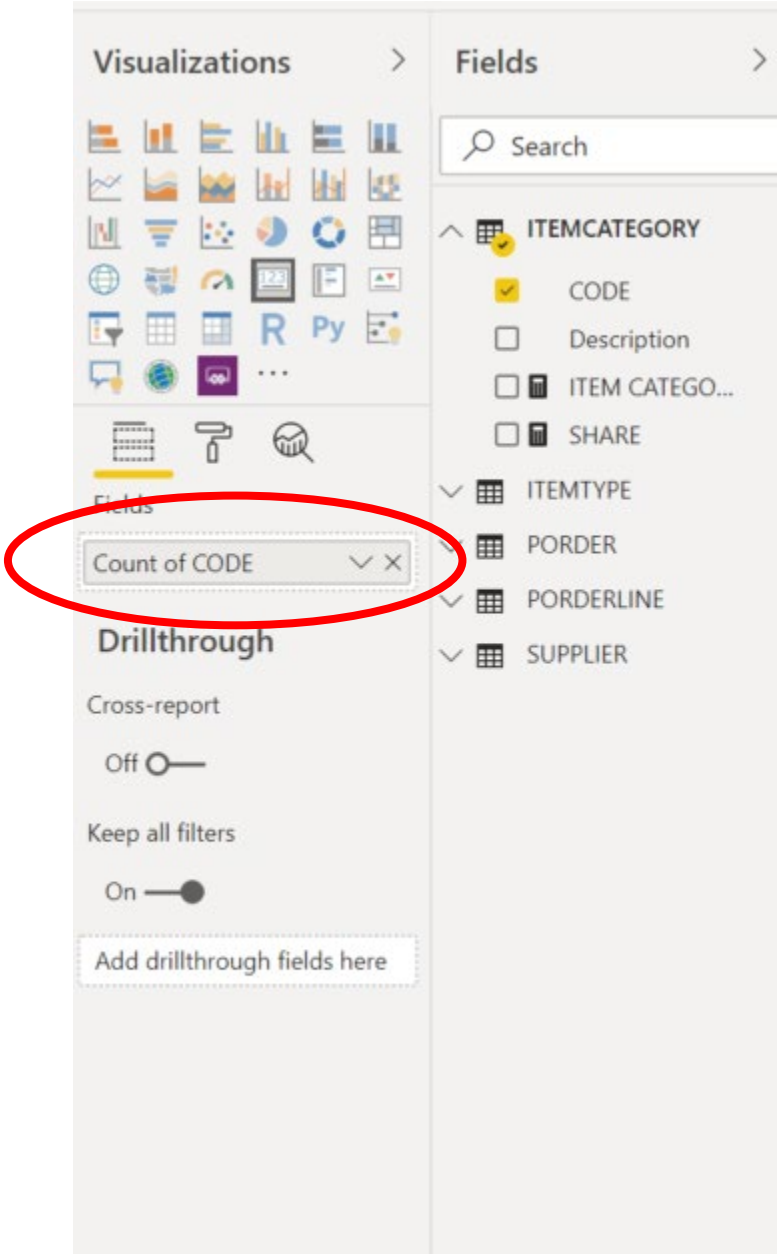
Task #1



1. Choose “Card” in the area directly under “Visualizations” (see darkly outlined icon).
2. Under “SUPPLIER” choose “SUPPLIER” (see checkmarks in right-side panel).

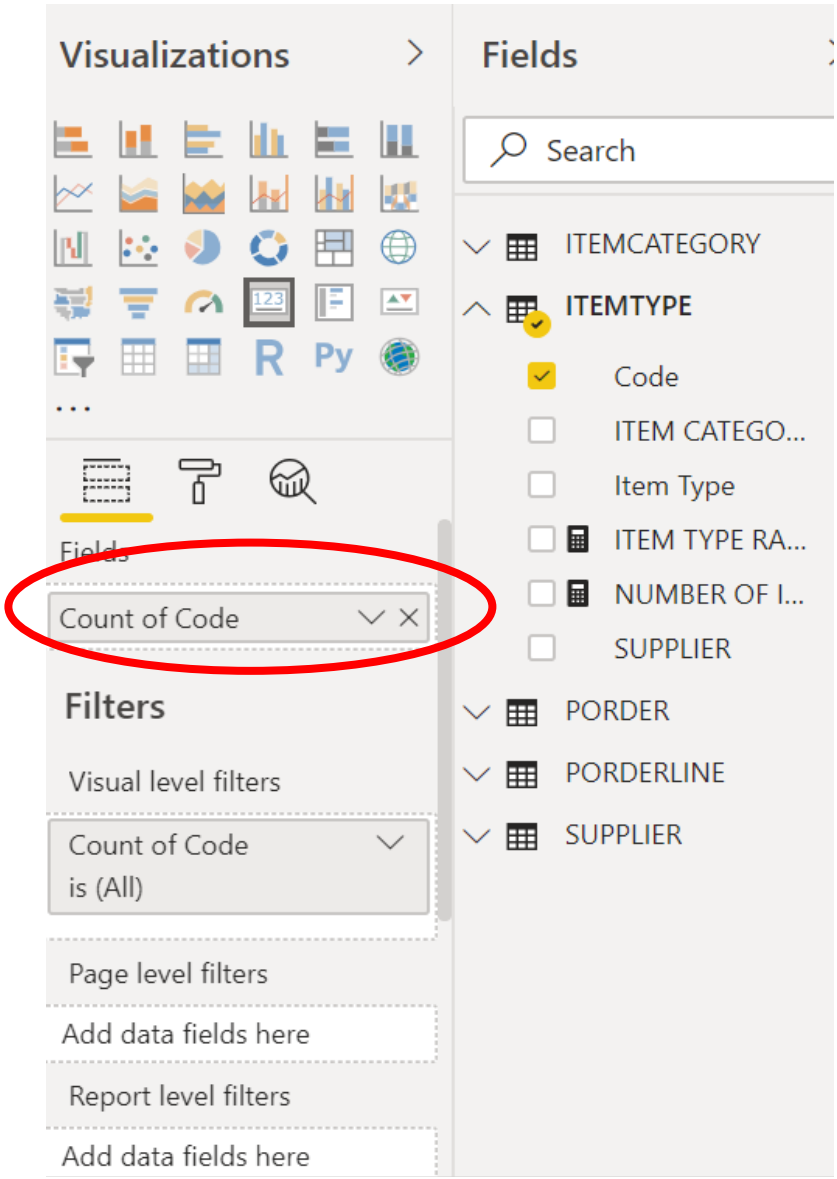
3. “First SUPPLIER” will be automatically populated. Use the drop-down arrow to select “Count(Distinct)” (see outlined drop-down).

Create a second card by repeating the steps for the number of product categories. First, click on a blank part of your page and then choose “Card” again in the area under “Visualizations”.



1. Under “ITEMCATEGORY”, choose “CODE”.
2. “First CODE” will be automatically populated in the red-circled area. Use the drop-down arrow to select “Count(Distinct)”.

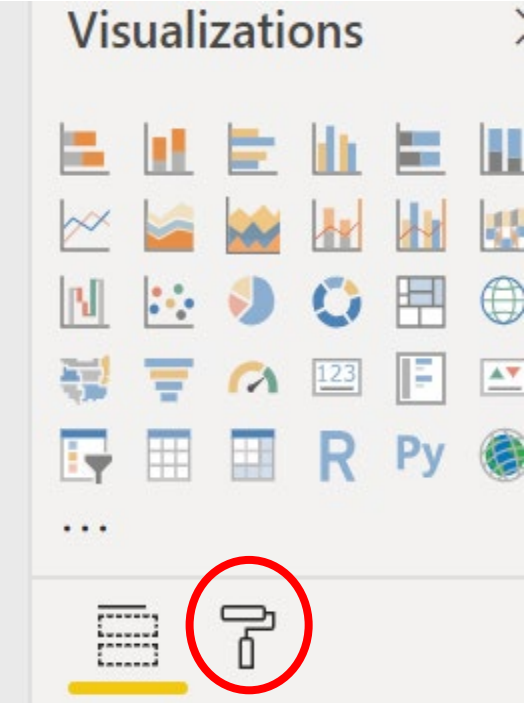
Next, create a third card by repeating the steps for the number of product types.



1. Under “ITEMTYPE”, choose “Code”.

2. “First CODE” will be automatically populated in the red-circled area. Use the drop-down arrow to select “Count(Distinct)”.

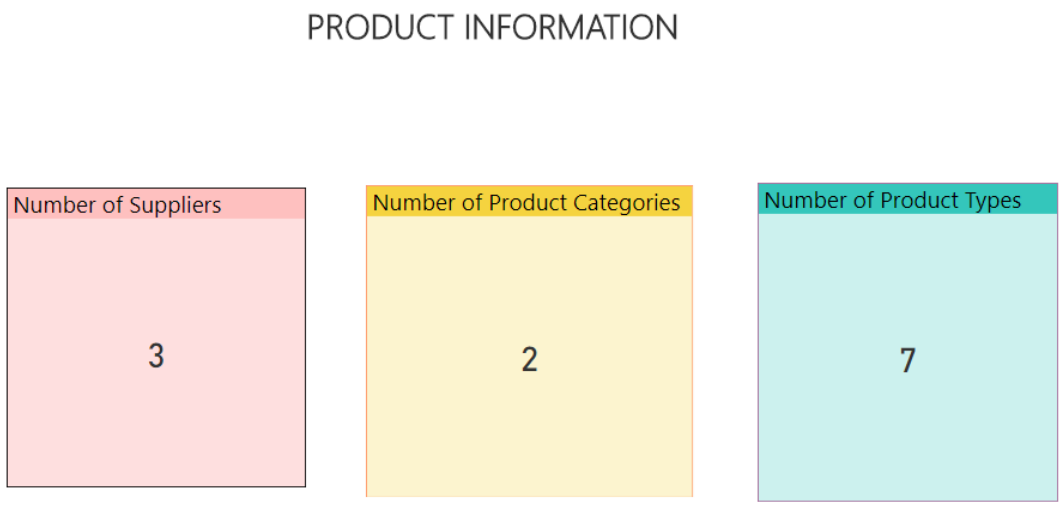
The software can also add formatting to the finished cards. Choose one of the cards you just created. Choose the circled icon:



Immediately below the icon, a menu appears that allows you to edit the appearance of the card. Some attributes must be turned on to activate. To see the available options for each attribute listed, use the arrow to the left of the attribute to open a drop-down menu. Scroll down the menu to find all available options.

To change the background colour, turn on the “Background” option and open the drop-down menu for background by clicking on the down arrow. Select the desired colour from the colour options. Selecting the “Title” option allows you to create a title for the card and select the font size and colour for the header. The size and font of the number displayed on the card can be changed by selecting the data label option.

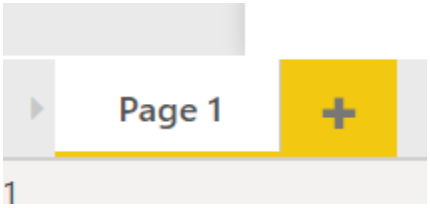
Finally, the cards should indicate that there are three suppliers, two product categories, and seven different products sold. The cards should appear as follows:



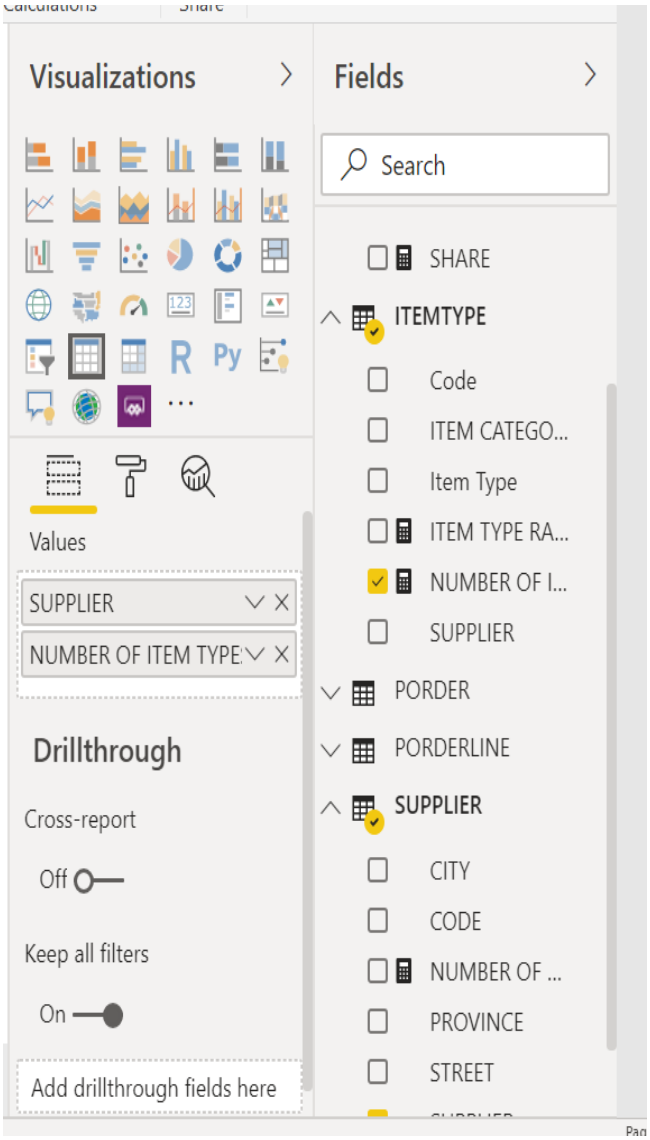
Task #2

i. Tables

To start, at the bottom left there is a “+” tab.

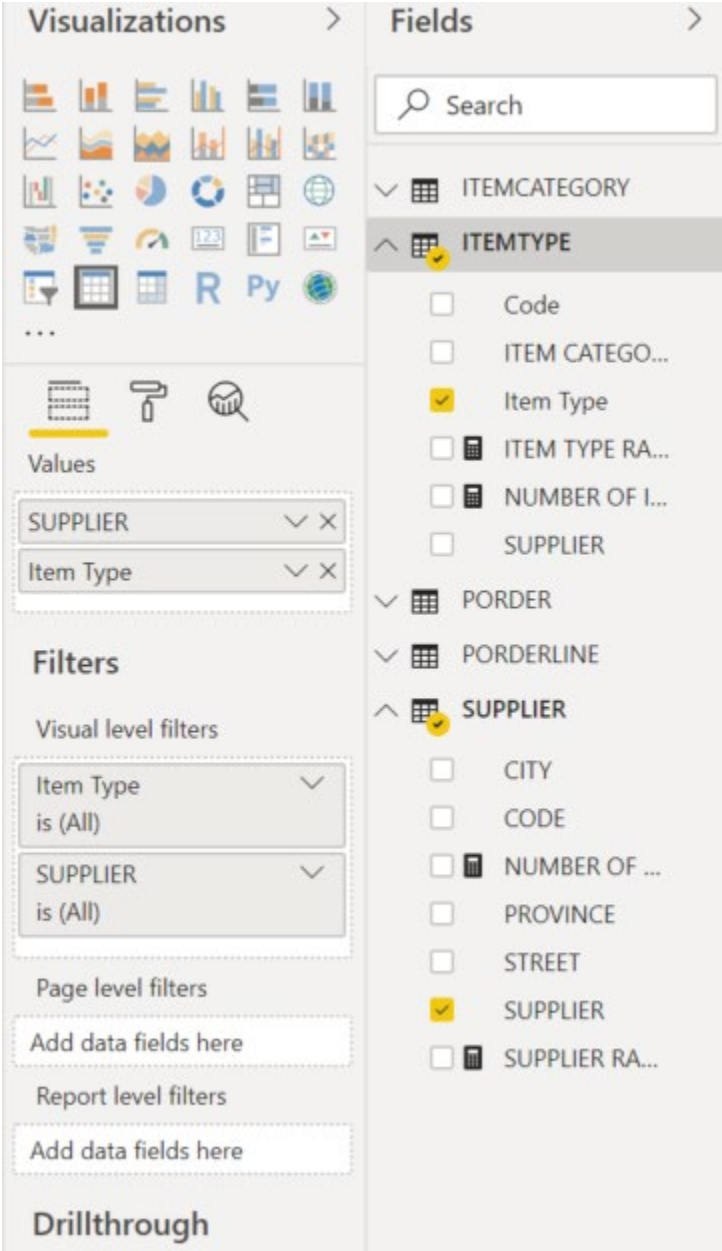


Click on the “+” to start a new page. Right-click on “Page 1” and rename this tab “Cards”. Right-click to rename the new tab “Tables”.



1. Under “Visualizations”, choose “Table”.
2. Select “SUPPLIER” and “SUPPLIER”, and then “ITEMTYPE” and “NUMBER OF ITEM TYPES”. It is important to make these selections in this order, as they will then display in this order from left to right.

Create a second table using the same steps, but this time select “SUPPLIER” and “SUPPLIER”, and then “ITEMTYPE” and “Item Type”.



You can format your tables again using the paint roller icon. Change the font size to 14 for “Values” and “Column Headers”.

Hint: You may need to resize your tables after updating the font size so that all of the information in the table is captured. You can do this by selecting your table and then dragging the border to resize.

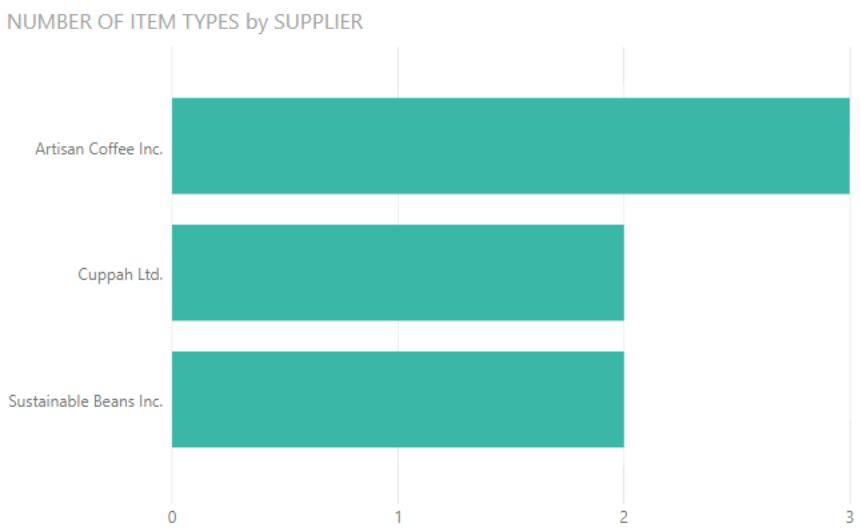
Depending on whether you made additional formatting changes to your tables, you should see the following:

SUPPLIER	NUMBER OF ITEM TYPES
Artisan Coffee Inc.	3
Cuppah Ltd.	2
Sustainable Beans Inc.	2
Total	**7**

SUPPLIER	Item Type
Artisan Coffee Inc.	Blond Brew
Artisan Coffee Inc.	Chocolate Dip
Sustainable Beans Inc.	Dark Brew
Artisan Coffee Inc.	Jelly
Cuppah Ltd.	Medium Brew
Sustainable Beans Inc.	Old-Fashioned
Cuppah Ltd.	Sugar

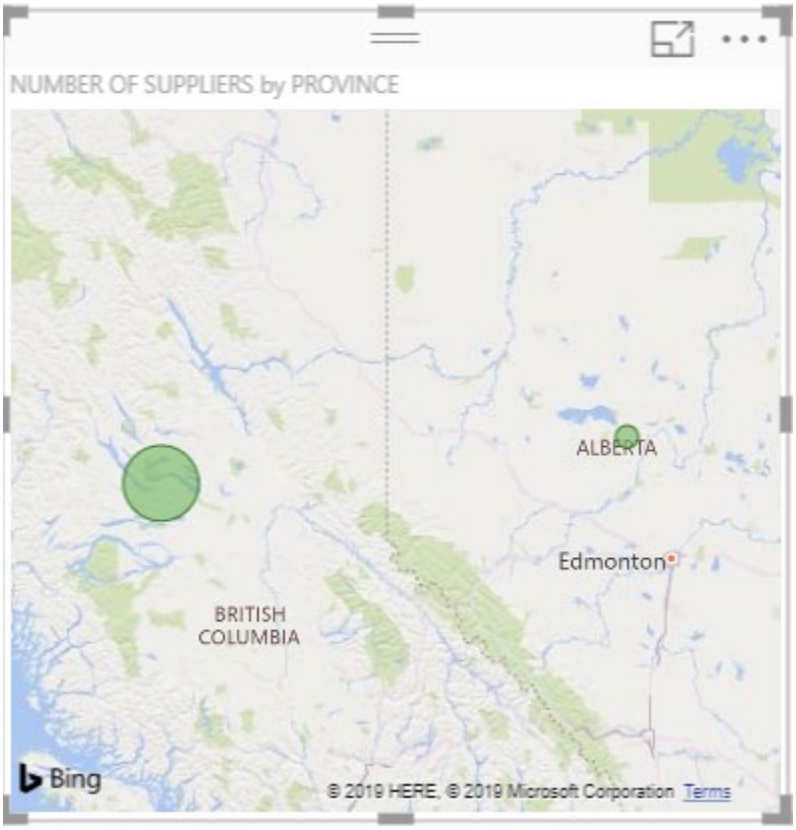
ii. Bar chart

Right-click on the tab for your current “Page” and select “Duplicate page”. Rename the duplicate page “Bar Chart”. To replace the table with a bar chart, click on the “SUPPLIER / NUMBER OF ITEM TYPES” table, and then select the stacked bar chart visualization. Delete the second table (“SUPPLIER / Item Type”) by clicking on the three dots at the top of the table and on “More options”, and selecting “Remove”. For your bar chart, make the title size 16, and drag the border to enlarge the chart.



iii. Map

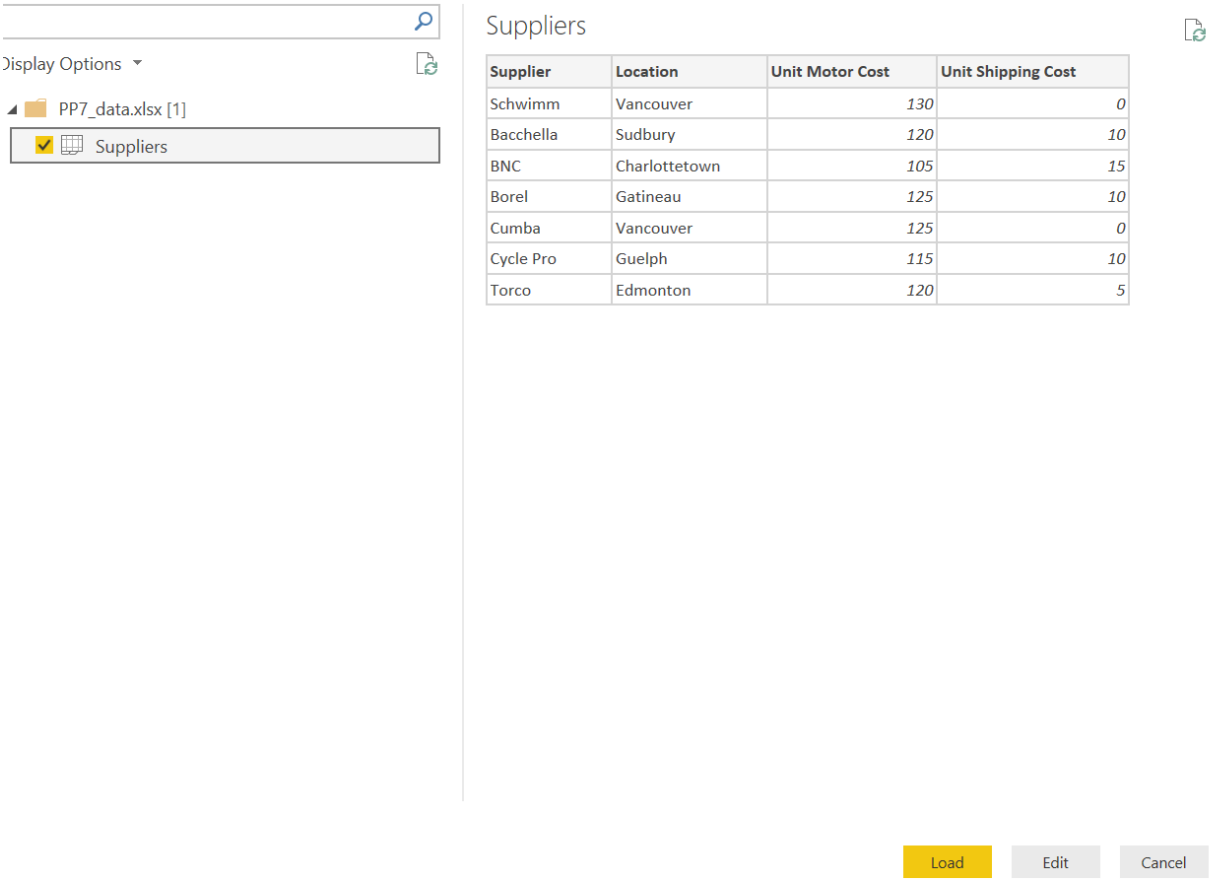
Create a new tab and rename it “Map”. Click “Map” (the globe icon within “Visualizations”), and then click “SUPPLIER” and “NUMBER OF SUPPLIERS”, and “SUPPLIER” and “PROVINCE”.
A map has been prepared in Power BI to present the supplier locations. A bubble appears in each of the provinces in which suppliers are located. The size of the bubble provides an indication of the relative number of suppliers in each province. As you can see, the bubble in British Columbia is bigger than the bubble in Alberta. This indicates that there are more suppliers in British Columbia than in Alberta.



Solution to Question 2

Step 1:

Open Power BI and import the file PP8-data.xlsx using the “Get Data” function, located on the top menu bar. Select “Excel” from the menu that opens on the right and then “Desktop” from the menu that opens on the left. You will have to download the data from Brightspace (D2L) to your desktop first.

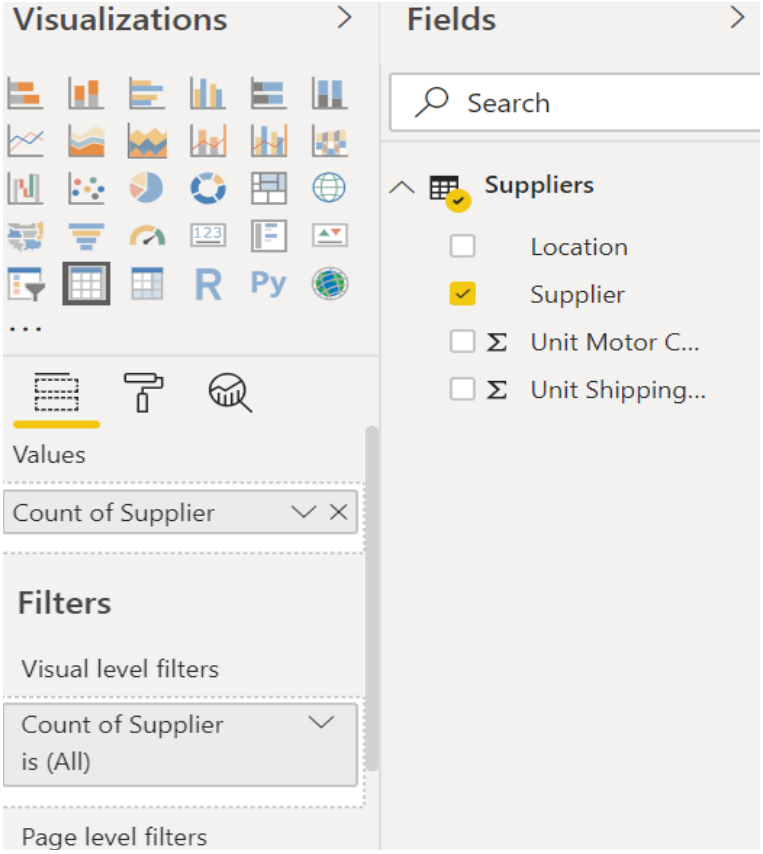


Supplier	Location	Unit Motor Cost	Unit Shipping Cost
Schwimm	Vancouver	130	0
Bacchella	Sudbury	120	10
BNC	Charlottetown	105	15
Borel	Gatineau	125	10
Cumba	Vancouver	125	0
Cycle Pro	Guelph	115	10
Torco	Edmonton	120	5

Select the “Suppliers” workbook. You should see a preview of the data on the right side of the frame. Select “Load”, which will become highlighted when the workbook is selected.

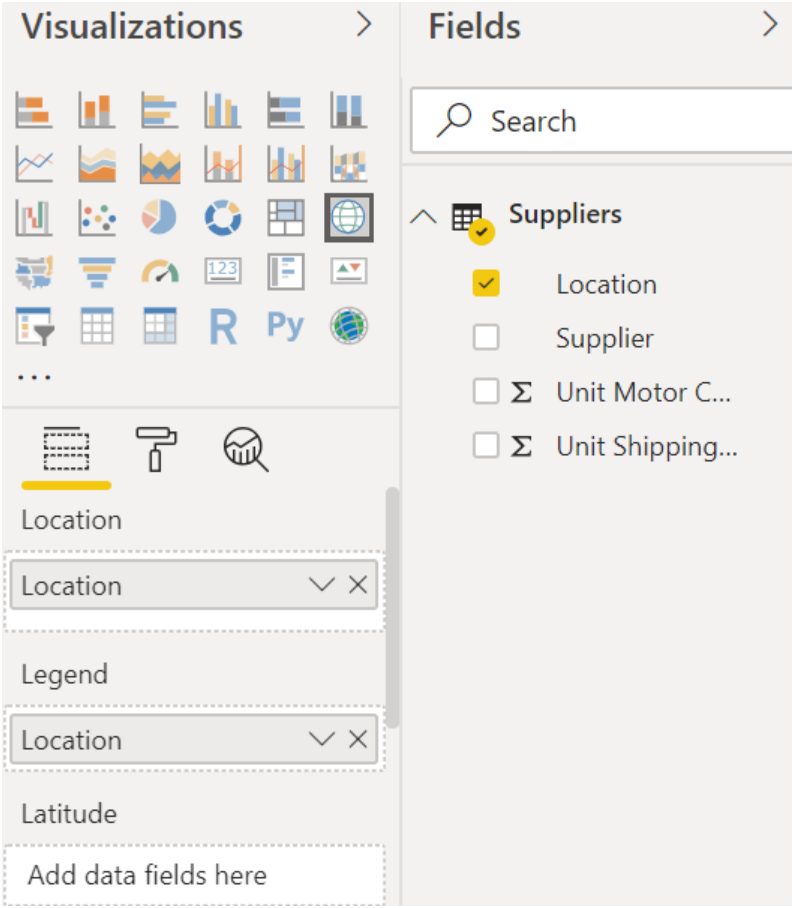
Step 2:

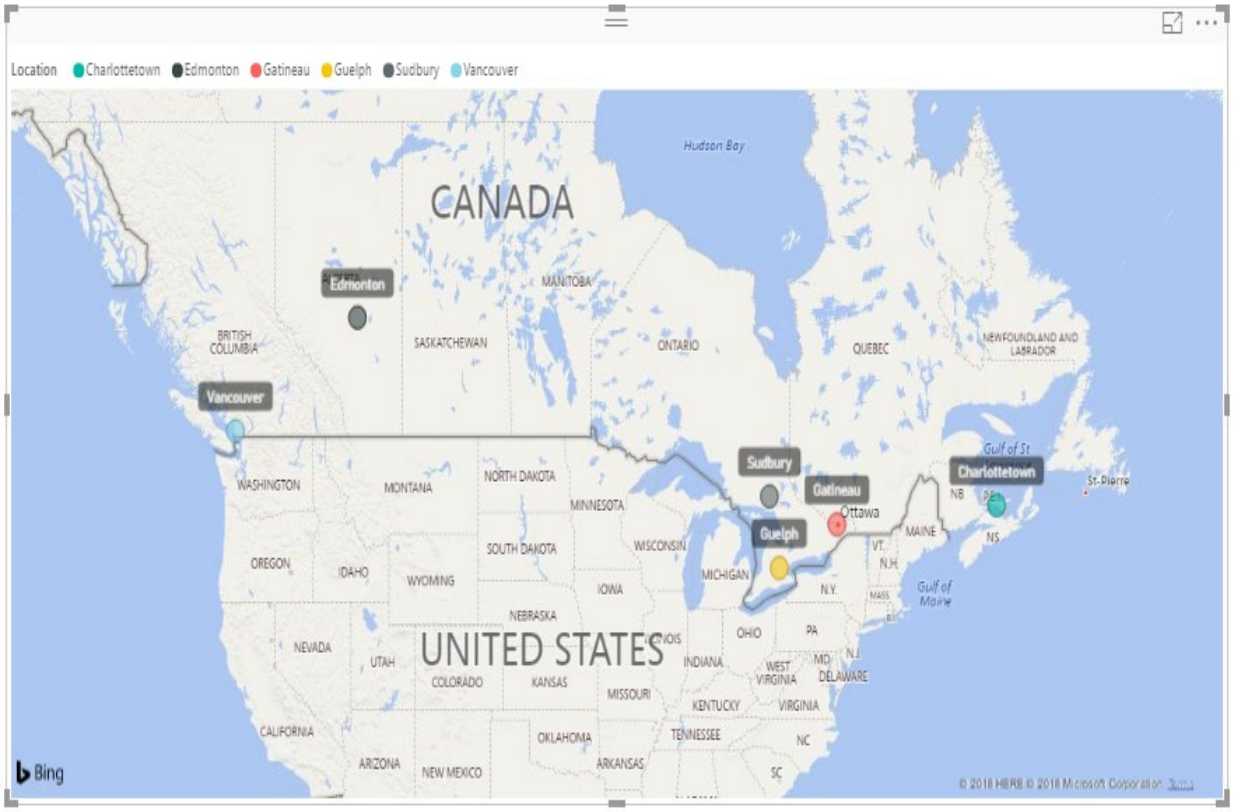
The board wants to know how many suppliers there are. Under “Visualizations”, choose “Card”. Under “Fields”, choose “Suppliers” and “Supplier”. Use the drop-down arrow under the “Visualizations” menu to select “COUNT/DISTINCT”, which will then display as “Count of Supplier”.



Create a map visualization of the supplier locations. Start by creating a new sheet by clicking the “+” symbol beside the existing page name. Choose “Map”. Note that two menus are now available: “Visualizations” and then “Fields” to the right. Below “Visualizations” is a data entry section used to populate the map. Select “Location” from the “Fields” menu bar and then drag and drop it to the “Location” field in the map data entry area. Then drag and drop “Location” from the “Fields” menu to the “Legend” field in the map data entry area to add labels to the locations on the map. You will have to turn the “Category” label on in the “Format” paint roller icon.

Note that if the “Visualizations” menu options close and become inactive, you can reopen them by returning the cursor to the map and clicking the map. Also, note that you can enlarge your map by pulling on the sides on the visualization.


Visualizations
Fields
Search
Suppliers
Location
Supplier
Unit Motor C...
Unit Shipping...
Location
Location
Legend
Location
Latitude
Add data fields here


Location
Charlottetown
Edmonton
Gatineau
Guelph
Sudbury
Vancouver
CANADA
Hudson Bay
Edmonton
Vancouver
Sudbury
Gatineau
Ottawa
Guelph
Charlottetown
BRITISH COLUMBIA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
NEWFOUNDLAND AND LABRADOR
WASHINGTON
MONTANA
NORTH DAKOTA
MINNESOTA
SOUTH DAKOTA
WISCONSIN
MICHIGAN
OREGON
IDAHO
WYOMING
IOWA
NEBRASKA
NEVADA
UTAH
COLORADO
KANSAS
MISSOURI
INDIANA
OHIO
PA
N.Y.
VT.
N.H.
MAINE
NB
NS
Gulf of St
Gulf of Maine
St. Pierre
UNITED STATES
CALIFORNIA
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TENNESSEE
KENTUCKY
VIRGINIA
WEST VIRGINIA
MD.
DELAWARE
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SC
Bing
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