Power BI Questions (Audit and Assurance)

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POWER BI QUESTIONS (AUDIT AND ASSURANCE)

Question 1

Circuit Board Inc. (CBI) is a distributor of computer parts such as circuit boards and memory storage. CBI is located in Calgary, Alberta, and has a small customer base that tends to place regular orders. You, CPA, have just been assigned as the audit senior on the inaugural CBI audit for the period ended December 31, 2018. Previously, CBI had reviews completed by your firm.

As senior auditor, you will be responsible for dealing with inventory where professional judgment is required, including valuation of inventory items and analysis of items that may require a writedown. CBI sells an average of 46 items of each type of product per year at an average margin of 24%.

CBI has provided you with an electronic copy of its “inventory cost analysis” and “inventory data log” files for the past three years. The “inventory cost analysis” file includes the master list of the product numbers, cost, and average sales price. The “inventory data log” file shows the quantity sold. CBI provided this information to help you determine if any of the inventory items require a writedown.

The dataset provided contained the following fields:

CustomerID	Unique identifier for each customer. CBI has 23 customers.
InvoiceNumber	Invoice number for sales made on credit
InvoiceDate	Date of credit sale
ProductNumber	Unique identifier for each product. CBI has 25 different products.
QuantitySold	Number of units sold
ItemCost	Per-unit cost the item was purchased for
AmountSoldFor	Per-unit amount the item was sold for
InvoiceAmount	Total amount of the invoice (quantity sold × unit price)

Hints:

- Your visualization has to be selected before you can work on it. To select your visualization, simply click on it in Power BI.
- Using Microsoft’s Snipping Tool, you can easily capture an image of the specific visualization requested.

Required #1

Sales and product number cost analysis

To help the company evaluate inventory values, CBI's accounting system tracks cost and the sales price. One of the key concerns with inventory is whether the items have been recorded at the proper value (valuation of inventory). Inventory should be recorded at the lower of its cost and the net realizable value (that is, the most recent sales price).

To begin your analysis of the inventory, it's important to obtain a good understanding of CBI's operations, including the sales demand for each item over the past two years and whether sales for the item are increasing or decreasing.

Submit your response to each of the requirements listed below using screenshots from Power BI and by following the steps outlined in Appendix I.

i. Create a "card" visualization for total sales.
ii. Create a "card" visualization for total number of products.
iii. Create a "cluster column chart" visualization displaying the total sales by product number.
iv. Create a "table" visualization displaying total sales by product number.
v. Create a "cluster bar chart" displaying average margin by product number.
vi. Create a "table" visualization displaying item cost, sales prices for 2016, 2017, and 2018, average sales price, average variance, and average margin by product number.
vii. Using the information above, identify the five products with the lowest margins. For these five products, create a "table" visualization displaying the total quantity sold. Filter the date to show the quantities for 2016, 2017, and 2018.

Required #2

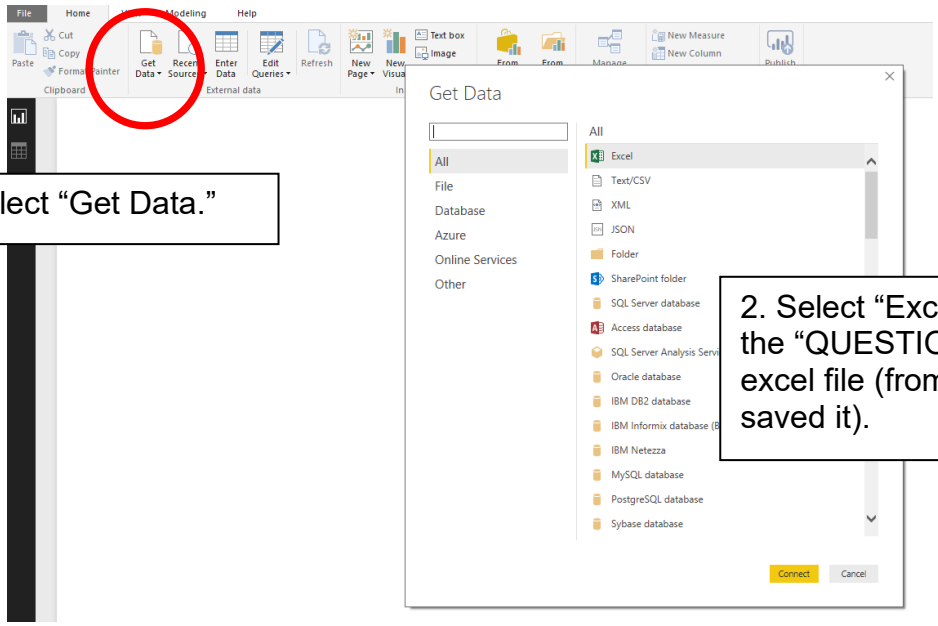
Memorandum to audit partner regarding valuation of inventory

Based on the analysis above, prepare a memo to the audit partner discussing what inventory items are overvalued and the amount of provision CBI should adjust for the December 31, 2018, inventory year end. The partner may wish to discuss the inventory writedown with CBI's management, so be as specific as possible with your examples and state any assumptions you have made in your analysis.

Appendix I

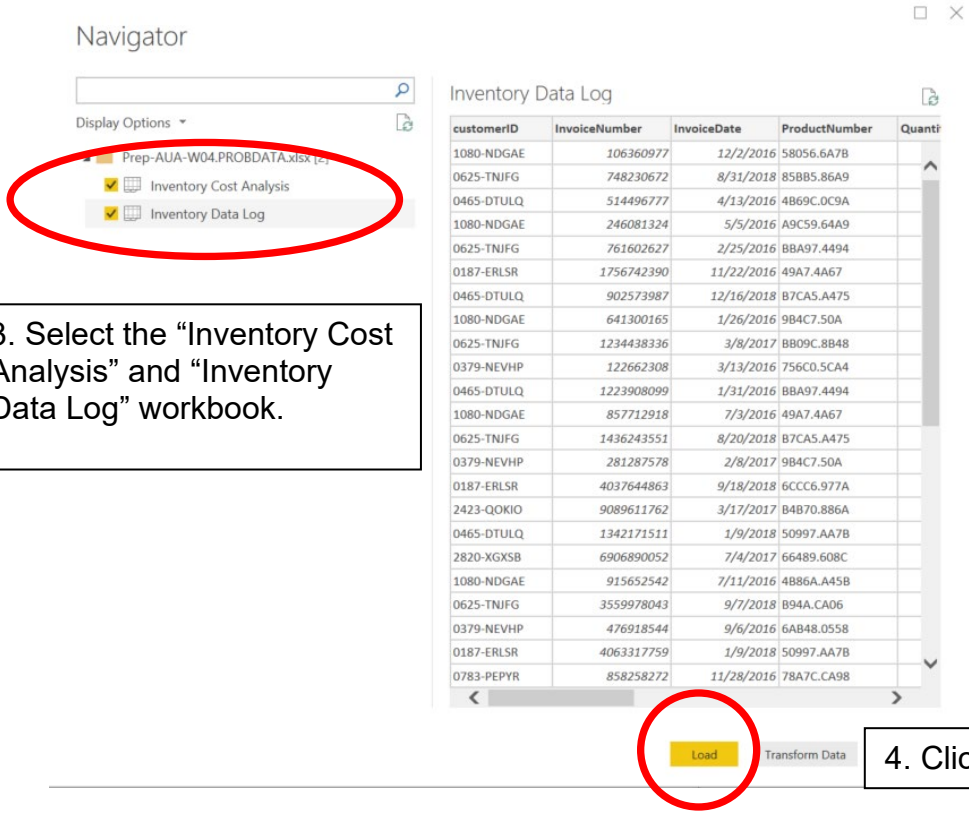
Step 1: Import data.

Open Power BI and import the file “QUESTION1.PROBDATA” file using the “Get Data” function. Use the screenshots below to guide you through the steps.



1. Select “Get Data.”

2. Select “Excel” and then find the “QUESTION1.PROBDATA” excel file (from where you saved it).



customerID	InvoiceNumber	InvoiceDate	ProductNumber	Quanti
1080-NDGAE	106360977	12/2/2016	58056.6A7B	
0625-TNJFG	748230672	8/31/2018	85BB5.86A9	
0465-DTULQ	514496777	4/13/2016	4B69C.0C9A	
1080-NDGAE	246081324	5/5/2016	A9C59.64A9	
0625-TNJFG	761602627	2/25/2016	BBA97.4494	
0187-ERLSR	1756742390	11/22/2016	49A7.4A67	
0465-DTULQ	902573987	12/16/2018	B7CA5.A475	
1080-NDGAE	641300165	1/26/2016	9B4C7.50A	
0625-TNJFG	1234438336	3/8/2017	BB09C.8B48	
0379-NEVHP	122662308	3/13/2016	756C0.5CA4	
0465-DTULQ	1223908099	1/31/2016	BBA97.4494	
1080-NDGAE	857712918	7/3/2016	49A7.4A67	
0625-TNJFG	1436243551	8/20/2018	B7CA5.A475	
0379-NEVHP	281287578	2/8/2017	9B4C7.50A	
0187-ERLSR	4037644863	9/18/2018	6CCC6.977A	
2423-QOKIO	9089611762	3/17/2017	B4B70.886A	
0465-DTULQ	1342171511	1/9/2018	50997.AA7B	
2820-XGXSB	6906890052	7/4/2017	66489.608C	
1080-NDGAE	915652542	7/11/2016	4B86A.A45B	
0625-TNJFG	3559978043	9/7/2018	B94A.CA06	
0379-NEVHP	476918544	9/6/2016	6AB48.0558	
0187-ERLSR	4063317759	1/9/2018	50997.AA7B	
0783-PEPYR	858258272	11/28/2016	78A7C.CA98	

3. Select the “Inventory Cost Analysis” and “Inventory Data Log” workbook.

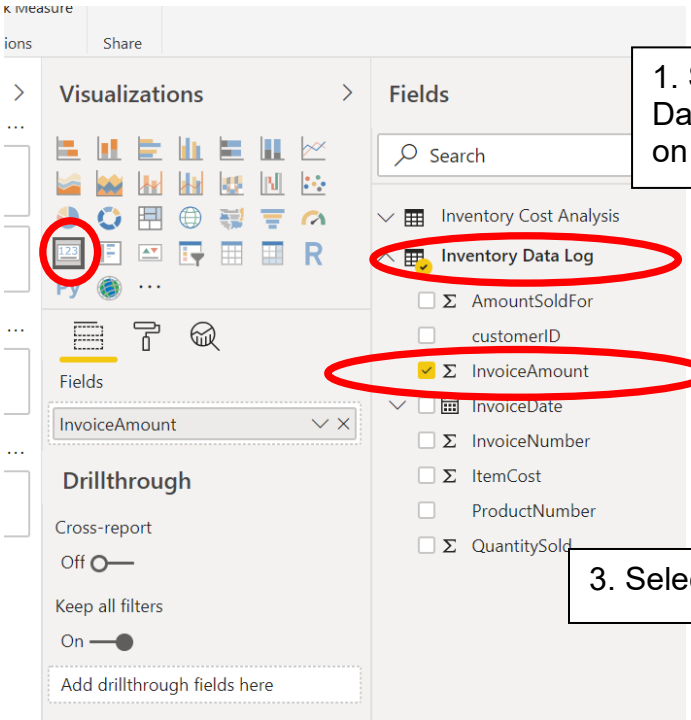
4. Click “Load.”

Step 2: Create a "card" visualization for total sales.

Once you have successfully imported the data into Power BI, you can now work with the data. Use only the "Inventory Data Log" data to create a card visualization of total sales for the past three years. Use the screenshots below to guide you through the steps.

2. Select "Card" under visualisations.

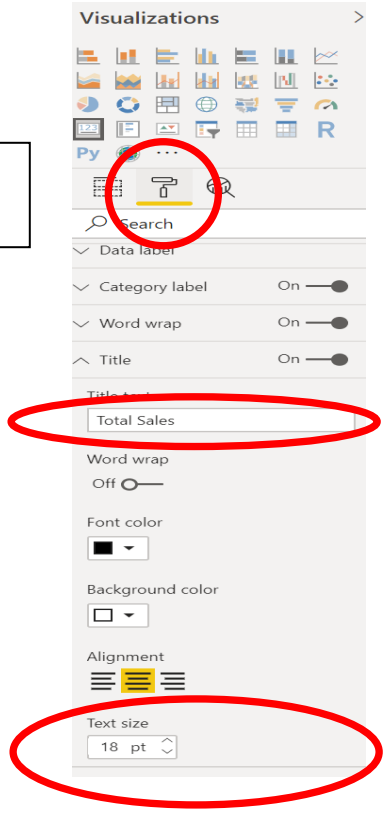
1. Select the "Inventory Data Log" data by clicking on it.



3. Select "InvoiceAmount."

Now customize the appearance of your visualization. You can add titles and background colours and remove data labels. At a minimum you want to add a title.

1. Select the paint roller icon.

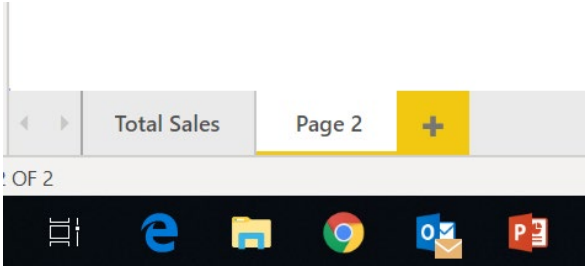


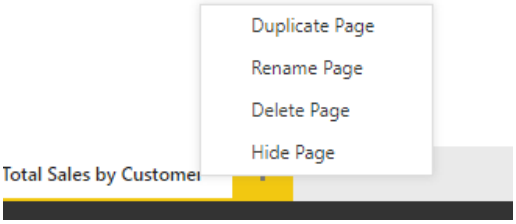
2. Toggle the Title to On, and type “Total Sales” into the “Title Text” to add a title to the card.

Set the font size to 18 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.i., Create a “card” visualization for total sales.

Hint: If you right-click on the Visualization tab ("page 1"), you can rename the tab to reflect your work. You can also "duplicate" the page so that your initial analytical work is transferred to a new page, where further analysis can be performed if required. You can create as many pages as you would like.



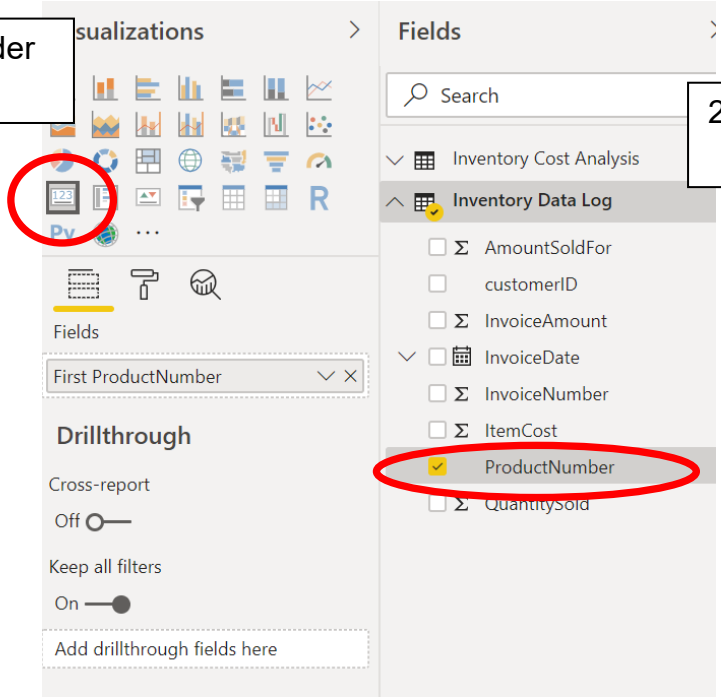


Step 3: Create a "card" visualization for total number of products.

Equally important as knowing the total sales is knowing the number of products that CBI sells. This will help the auditors understand how many different items CBI's inventory is made up of. Use only the "Inventory Data Log" data. Use the screenshots below to guide you through the steps.

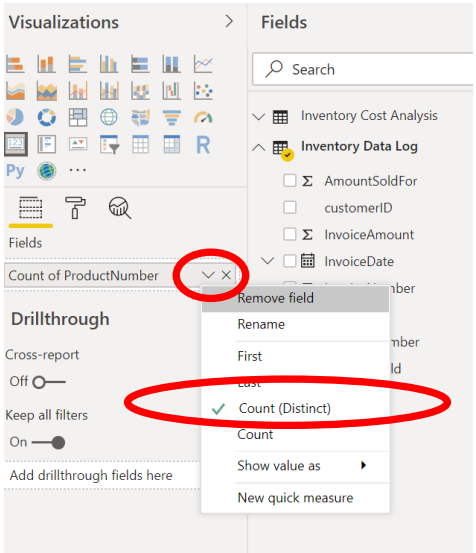
1. Select "Card" under visualizations.

2. Select "ProductNumber."



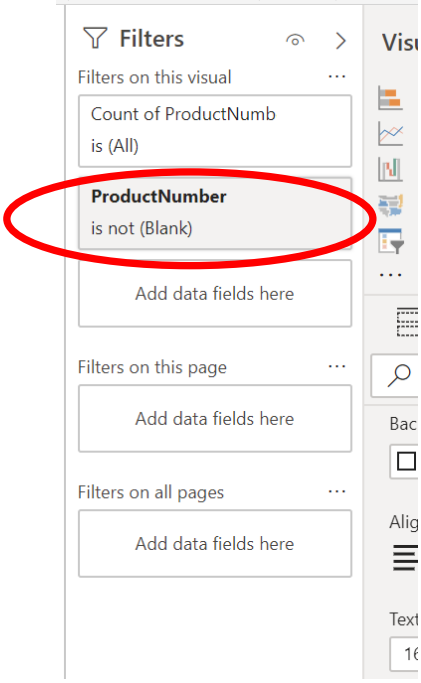
To identify how many products there are, filter to count the number of distinct product numbers.

1. Select "Field." In the drop-down menu, select "Count (Distinct)."

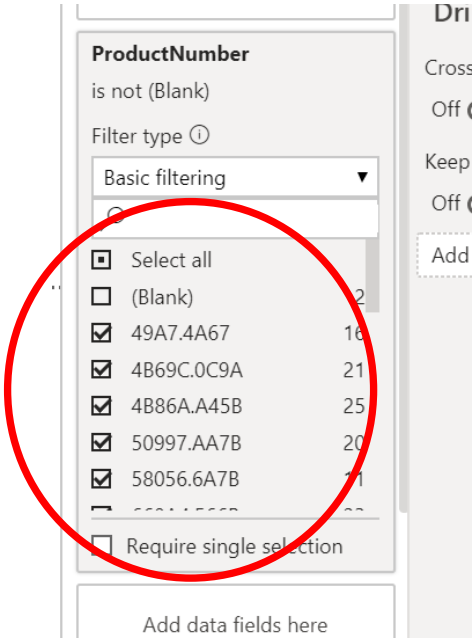


To ensure that no blank rows are being identified as product numbers under “Filters” ensure that the “product number” has been dragged to the filter box and that “not blank” has been unchecked.

1. Select “Product Number” and drag into the “add data fields here” box.

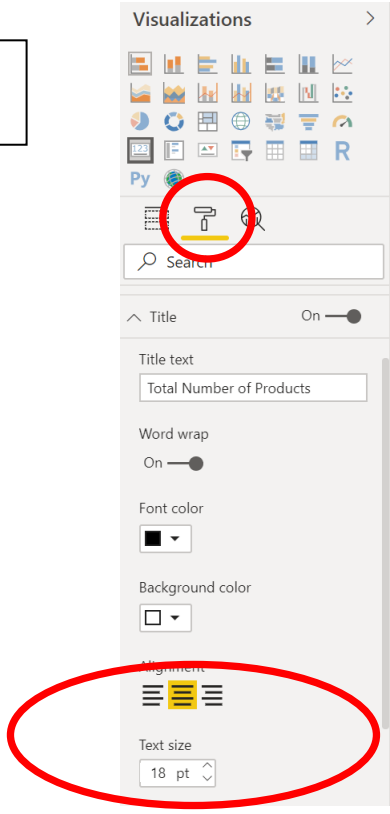


2. Filter the “ProductNumber” and ensure all products are selected, except any “blank” items.



Now customize the appearance of your visualization. You can add titles and background colours and remove data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type “Total Number of Products” into the “Title Text” to add a title to the card.

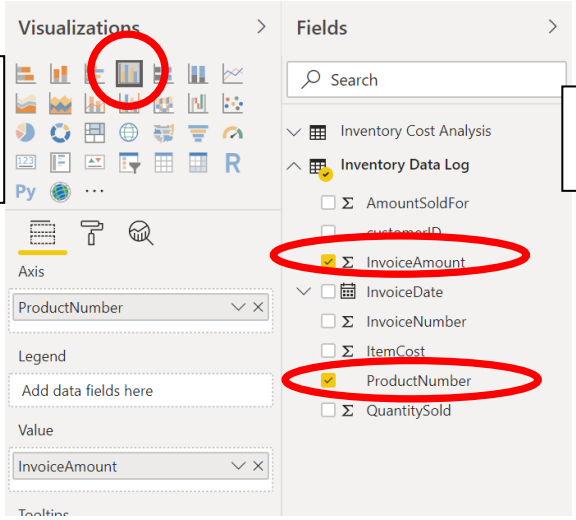
Set the font size to 18 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.ii., Create a “card” visualization for total number of products.

Step 4: Create a "cluster column chart" visualization displaying the total sales by product number.

Next, we will want to examine the total sales by product number. This will give the auditors a better understanding of the demand for the products. Only use the "Inventory Data Log" data. Use the screenshots below to guide you through the steps.

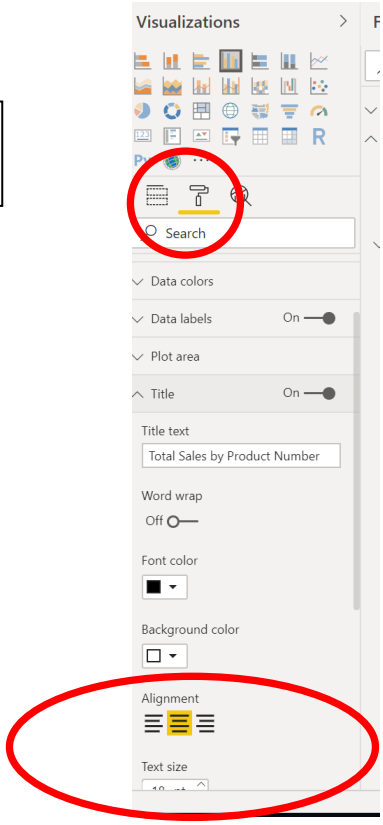
1. Select "Clustered Column Chart" under visualizations.



2. Select "Invoice Amount" and "Product Number."

You can add titles and background colours and data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type "Total Sales by Products" into the "Title Text" to add a title to the card.

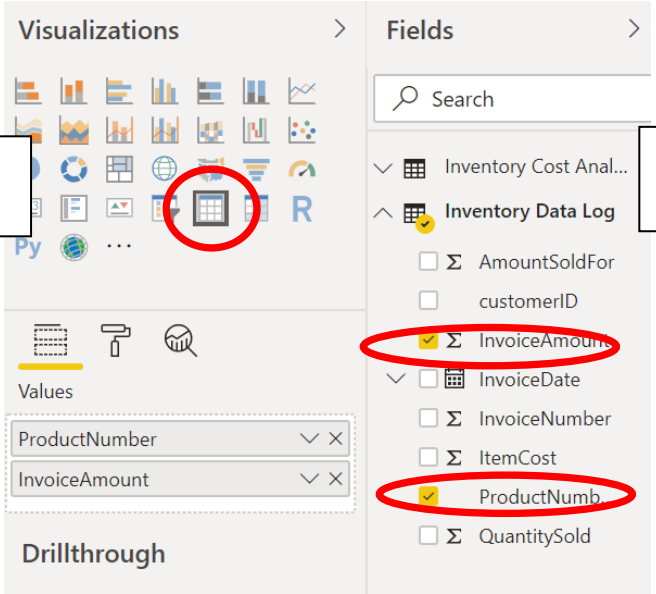
Set the font size to 18 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.iii., Create a “cluster column chart” visualization for the total sales by product number.

Step 5: Create a "table" visualization displaying total sales by product number.

We can further our analysis by utilizing the data to examine total sales by product number in a table format. This will provide detailed information on total sales. Use only the "Inventory Data Log" data. Use the screenshots below to guide you through the steps.

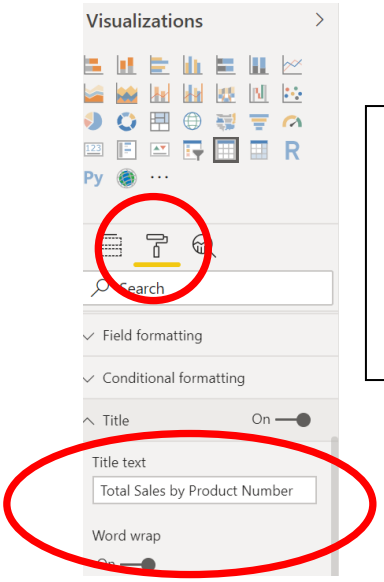
1. Select "Table" under visualizations.



2. Select "Invoice Amount" and "Product Number."

You can add titles and background colours and data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type "Total Sales by Products" into the "Title Text" to add a title to the card.

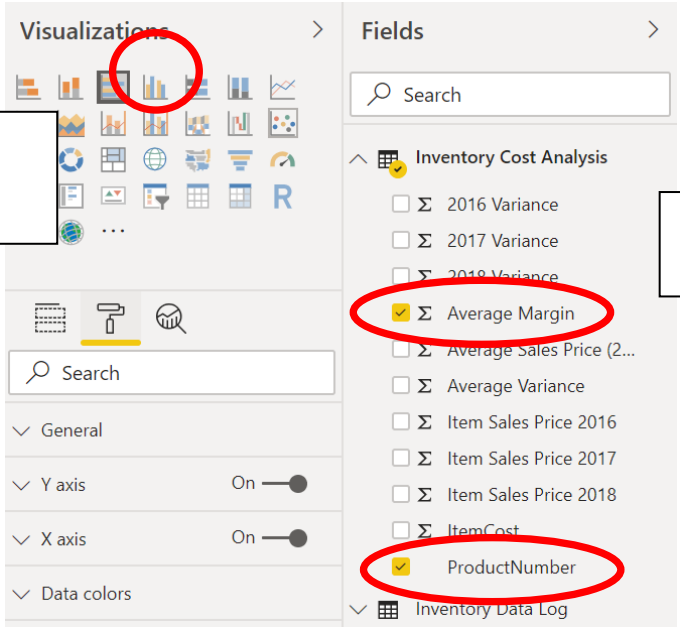
Set the font size to 18 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.iv., Create a "table" displaying total sales by product number.

Step 6: Create a "cluster bar chart" displaying average margin by product number.

To help identify inventory items that may have issues with valuation, we can utilize the data to examine the sales margin of each product. Use only the "Inventory Cost Analysis" data. Use the screenshots below to guide you through the steps.

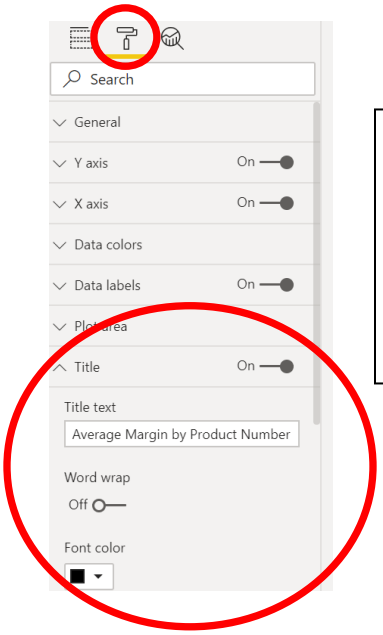
1. Select "Cluster Bar Chart" under Visualisations.



2. Select "Average Margin" and "Product Number."

You can add titles and background colours and data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type “Average Margin by Product Number” into the “Title Text” to add a title to the card.

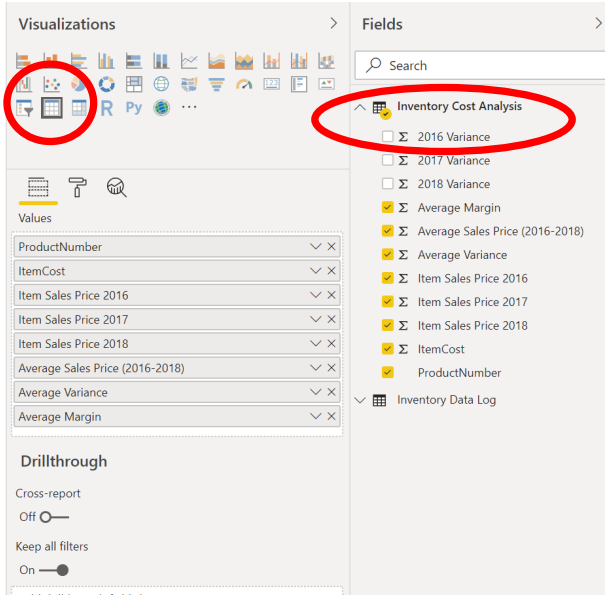
Set the font size to 18 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.v., Create a “cluster bar chart” displaying average margin by product number.

Step 7: Create a "table" visualization displaying item cost, sales prices for 2016, 2017, and 2018, average sales price, average variance, and average margin by product number.

To examine gross margin further, we will create a table that provides more detailed information on item cost and sales prices for the past three years. Use only the "Inventory Cost Analysis" data. Use the screenshots below to guide you through the steps.

1. Select "Table" under Visualisations.



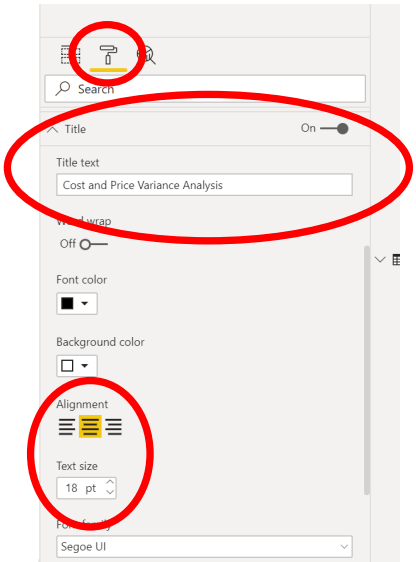
2. Using only "Inventory Cost Analysis" data, select:

- Product Number
- Item Cost
- Item Sales Price 2016
- Item Sales Price 2017
- Item Sales Price 2018
- Average Sales Price (2016-2018)
- Average Variance
- Average Margin

Tip: the order in which you click the boxes, is the order the columns will appear in the table.

You can add titles and background colours and data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type "Cost and Price Variance Analysis" into the "Title Text" to add a title to the card.

Set the font size to 18 and choose the centre alignment.

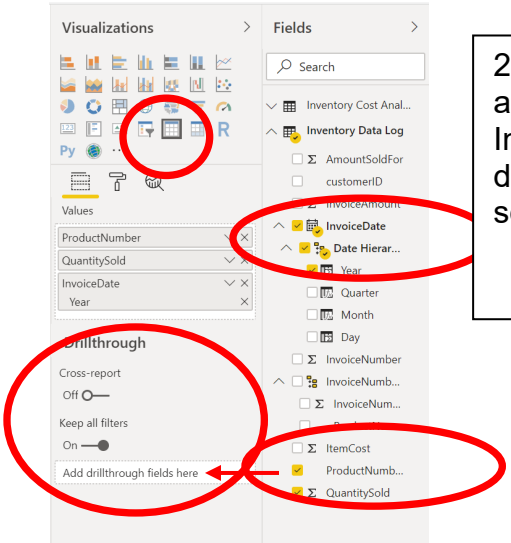
Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.vi., Create a “table” visualization displaying item cost, sales prices for 2016, 2017, and 2018, average sales price, average variance, and average margin by product number.

Step 8: Identify the five products with the lowest margins. For these five products, create a "table" visualization displaying the total quantity sold. Filter the date to show the quantities for 2016, 2017, and 2018.

Based on the gross margin analysis done above, we want to focus on the five products with the lowest margins. Specifically, we want to focus on the three inventory items that have negative average margins and the two inventory items that have margins of less than 15%. Therefore, we will focus our analysis on the following five product numbers: 49A7.4A67, 660A4.566B, 6AB48.0558, A7C07.7BB7, and B4B70.886A.

To isolate the analysis to these five product numbers, we will create a table visualization. Use only the "Inventory Data log" data. Use the screenshots below to guide you through the steps.

1. Select "Table" under visualisations.



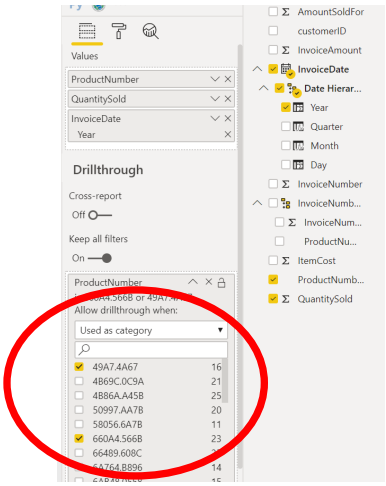
2. Select "Product Number" and "Quantity Sold". Under Invoice date expand the dropdown menu and only select "Year."

Next, to help isolate the data for the five products that have negative and low margins, we will drag and drop "product number" into "add drillthough fields here." Once the Drillthrough box has all of the product numbers listed, hold down "Ctrl" and select the five product numbers listed above.

3. Click on “Product Number” and drag it to the blank space under the Drillthough box.

This will create a dropdown list of all the product numbers:

- 49A7.4A67
- 660A4.566B
- 6AB48.0558
- A7C07.7BB7
- B4B70.886A



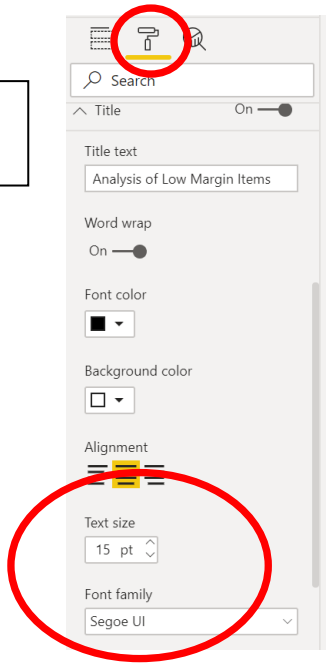
4. You will see a list of all product numbers, and you will have the option to select or de-select each year. Leave it as “used as category.”

Hold down “Ctrl” and select the 5 product numbers listed below:

- 49A7.4A67
- 660A4.566B
- 6AB48.0558
- A7C07.7BB7
- B4B70.886A

You can add titles and background colours and data labels. At a minimum you want to add a title.

1. Select the paint roller.



2. Toggle the Title to On, and type “Analysis of Low Margin Items” into the “Title Text” to add a title to the card.

Set the font size to 15 and choose the centre alignment.

Submission: Take a screenshot of the visualization, with the title, and include it as your response to Required #1.vii., Create a “table” visualization displaying the total quantity sold. Filter the date to show the quantities for 2016, 2017, and 2018 for the five products with the lowest margins.

Question 2

Clement Hardware Inc. (CHI) is a small, family-owned hardware store in Montréal, Québec. It has a small customer base that tends to place regular orders. You, CPA, have just been assigned as the audit senior on the CHI audit for the period ended December 31, 2018.

As senior, the first account you are to analyze is the allowance for doubtful accounts.

CHI has provided you with an electronic copy of its accounts receivable log for the past two years to help you determine whether the allowance for doubtful accounts is reasonable.

The dataset provided contained the following fields:

CustomerID	Unique identifier for each customer
InvoiceNumber	Invoice number for sales made on credit
InvoiceDate	Date of credit sale
DueDate	30 days after the invoice date
YearEndDate	December 31, 2018
InvoiceAmount	Invoice amount (in Canadian dollars)
PaymentDate	Date invoice was paid
PaymentAmount	Amount paid
Outstanding	InvoiceAmount less PaymentAmount
DaysToSettle	Days elapsed between InvoiceDate and PaymentDate
DaysLate	Days elapsed between DueDate and PaymentDate (or YearEndDate if payment not received)

Required:

One of the key concerns when evaluating the allowance for doubtful accounts is a customer's payment history. CHI's accounting system tracked both the number of days taken to settle an invoice (DaysToSettle) and the number of days the payment was late (DaysLate).

As items sold in the last 30 days of the fiscal year are not "due" until the new year, it is reasonable to exclude these current items from our analysis of old invoices. Using the data file "AUA-QUESTION2":

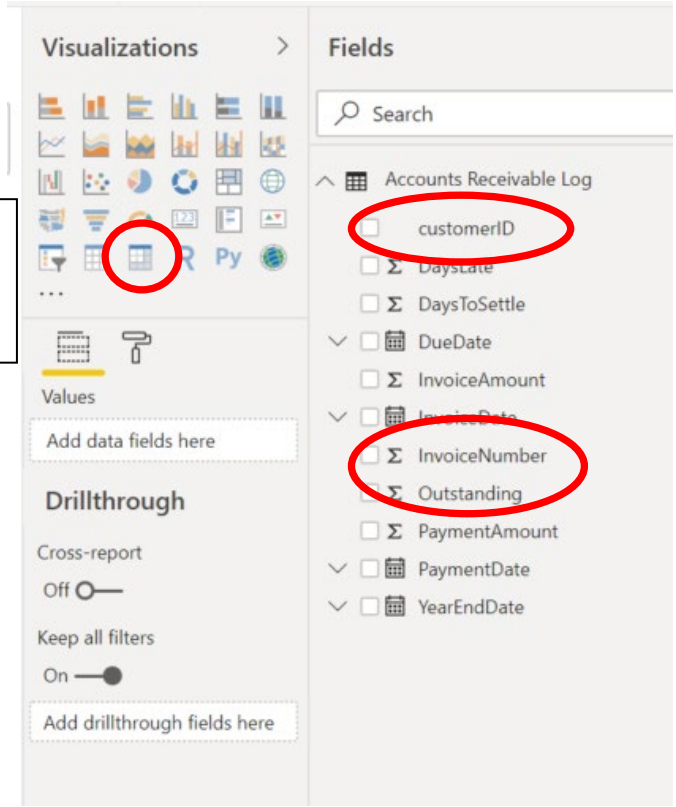
i. Create a table displaying all of the outstanding invoices at year end.
ii. Create a table displaying all "late" outstanding invoices at year end.
iii. Identify the customer that has the oldest outstanding invoices at year end.

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

Instructions:

i. You can create a detailed listing of the invoices outstanding at year end by using a table. This table can be the starting point for future analysis of the likelihood of collection of the receivable and the valuation of the allowance for doubtful accounts.

1. In a new tab, create a table visualization.



2. Select the “customerID”, “InvoiceNumber”, and “Outstanding” fields.

CustomerID	InvoiceNumber	Outstanding
0187-ERLSR	94432598912	2,658.54
0379-NEVHP	120989080775	6,869.31
0465-DTULQ	121975849935	76.21
0625-TNJFG	145923145046	1,128.32
0688-XNJRO	153182535167	534.21
0706-NRGUP	102897415419	0.00
0709-LZRJV	138399650536	28.35
0783-PEPYR	108593049393	664.25
1080-NDGAE	132067434876	3,197.93
1168-BEASA	126885729700	104.38
1408-OQZUE	116581491524	211.80
1447-YZKCL	137681845571	8,446.28
1604-LIFKX	107719779096	1,365.47
2026-XLBER	119772710733	63.32
2125-HJDLA	104509012295	68.72
2423-QOKIO	122317398822	66.85
2447-JCFGW	127619717783	269.51
2621-XCLEH	86357407395	1,607.29
2676-DZINU	142056525037	263.98
2687-XWAMA	162922929125	176.90
2820-XGXSB	116028402130	0.00
2824-HJQPP	186022768890	138.98
3271-HYHDN	76608092542	24.33
Total	**2851544570702**	**27,964.93**

3. Sort using the “Outstanding” column from highest to lowest (click on column heading until it sorts in the order you need).

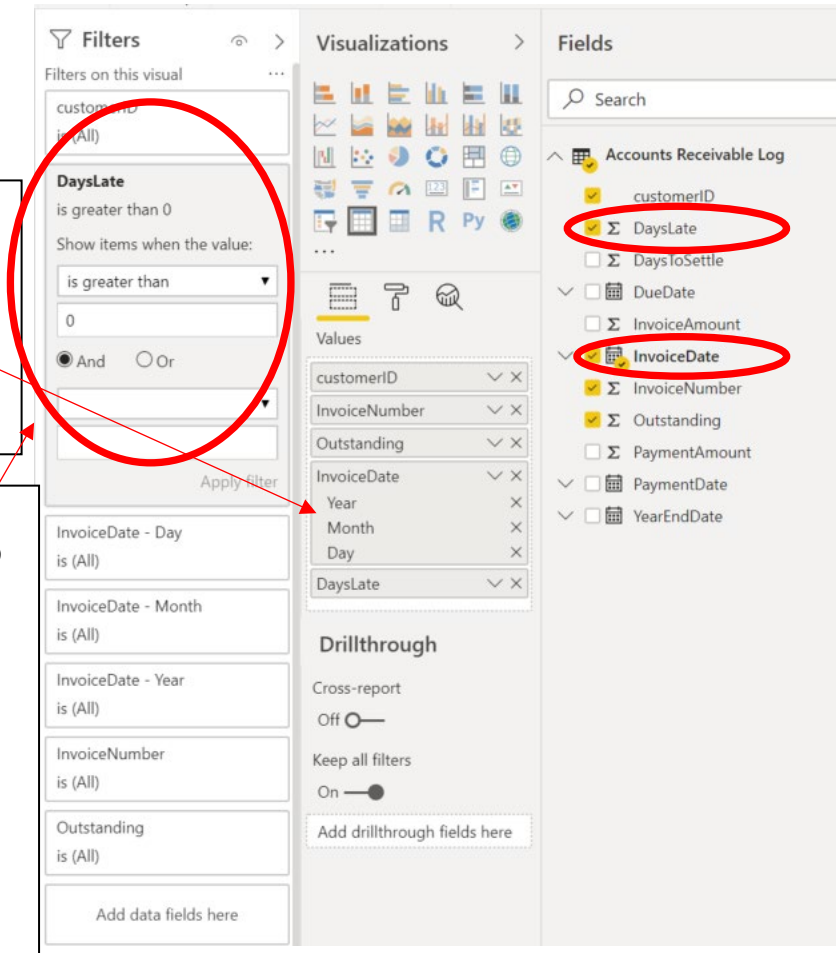
You may also need to resize your table.

ii.

1. Create a duplicate of the table you created in (i), so that you now have two identical tables. Select the second table.

2. Building on the detailed outstanding list, select the “InvoiceDate” and “DaysLate” fields and add them to the table.

3. As the fiscal quarter is not required for this analysis, you can remove that information by clicking on the X for the “Quarter” field under the “InvoiceDate” values.



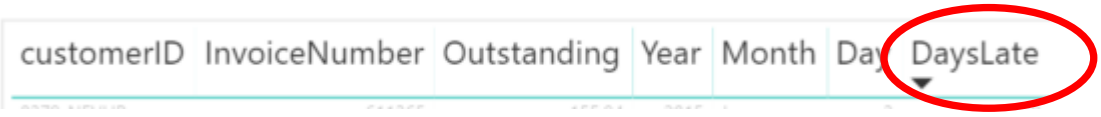
4. You will need to add some additional filtering to the table to eliminate the “current” invoices.

- Use the “Filters” and select the drop-down arrow for the “DaysLate” field:
  - Select “is greater than” from the drop-down options.
  - Type in “0”.
  - Click “Apply filter”.

This means only invoices that are at least one day past the due date are included in your data subset.

5. We are also only interested in outstanding balances greater than 0, so using the same process, select the “Outstanding” field and select the “is greater than” option from the drop-down menu, type in “0”, and click “Apply filter”.

iii. Use the table from (ii) and sort from highest to lowest based on “DaysLate” and identify the customer with the highest number of days late.



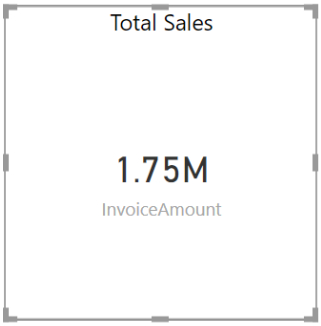
Solutions

Solution to Question 1

Required #1

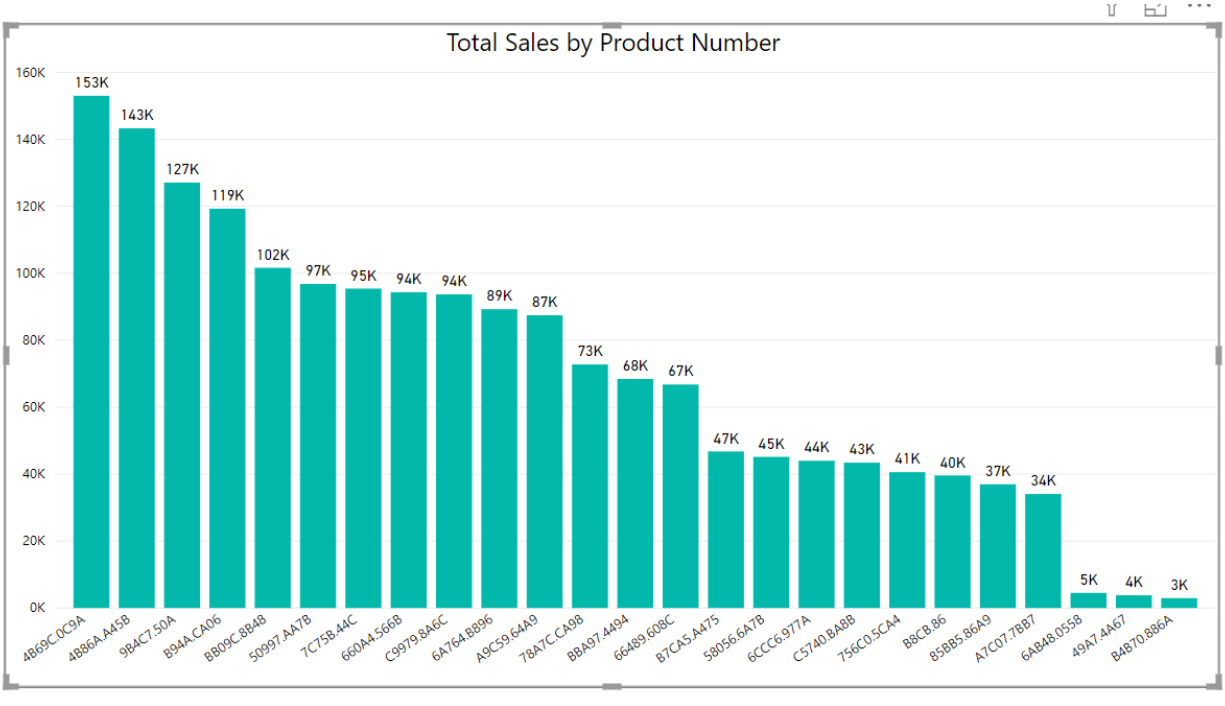
Sales and product number cost analysis

i. Create a “card” visualization for total sales.



ii. Create a “card” visualization for total number of products.

iii. Create a “cluster column chart” visualization for the total sales by product number.

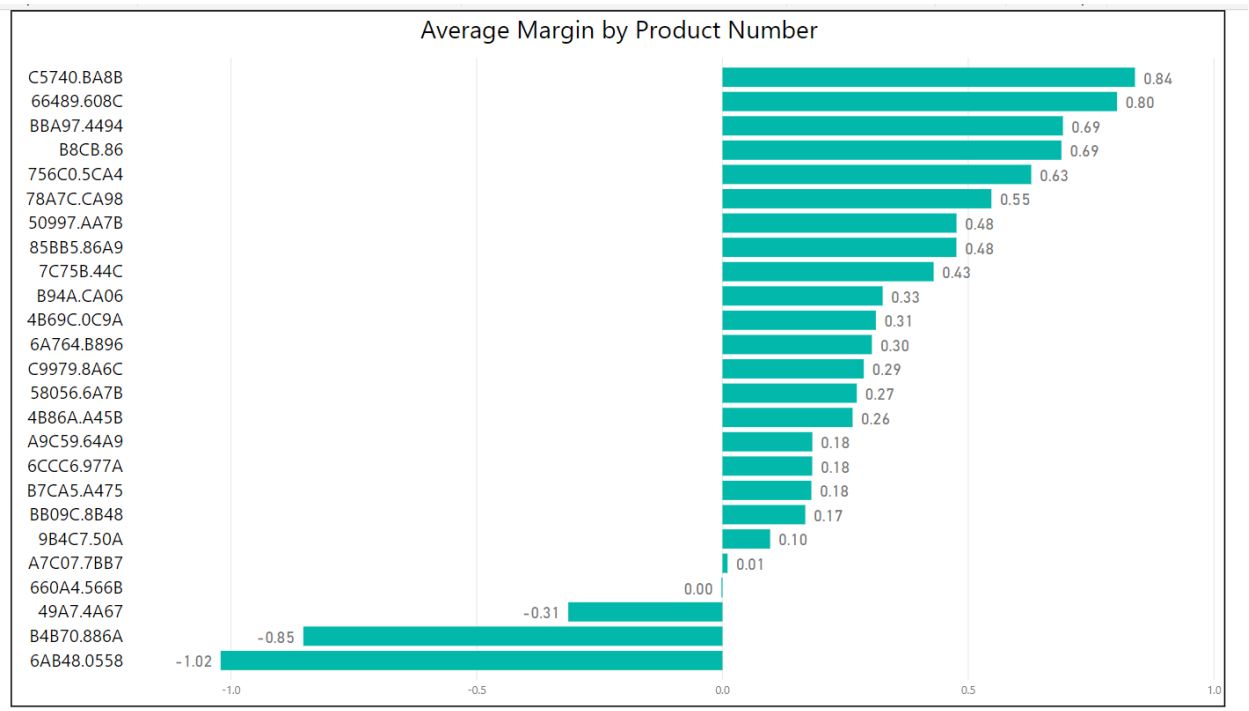


iv. Create a “table” displaying total sales by product number.

Total Sales by Product Number

ProductNumber	InvoiceAmount
4B69C.0C9A	153,026.00
4B86A.A45B	143,308.47
9B4C7.50A	127,095.60
B94A.CA06	119,294.00
BB09C.8B48	101,624.50
50997.AA7B	96,804.58
7C75B.44C	95,421.62
660A4.566B	94,334.89
C9979.8A6C	93,699.34
6A764.B896	89,260.59
A9C59.64A9	87,443.61
78A7C.CA98	72,754.34
BBA97.4494	68,429.41
66489.608C	66,767.58
B7CA5.A475	46,763.50
58056.6A7B	45,149.77
6CCC6.977A	43,983.96
C5740.BA8B	43,414.24
756C0.5CA4	40,576.89
B8CB.86	39,589.55
85BB5.86A9	36,950.18
A7C07.7BB7	34,056.60
6AB48.0558	4,502.00
49A7.4A67	3,795.46
B4B70.886A	2,941.80
Total	**1,750,988.48**

v. Create a “cluster bar chart” displaying average margin by product number.



vi. Create a “table” visualization displaying item cost, sales prices for 2016, 2017, and 2018, average sales price, average variance, and average margin by product number.

Cost and Price Variance Analysis

ProductNumber	ItemCost	Item Sales Price 2016	Item Sales Price 2017	Item Sales Price 2018	Average Sales Price (2016-2018)	Average Variance	Average Margin
49A7.4A67	81.51	61.57	71.45	53.10	62.04	-19.47	-0.31
4B69C.0C9A	94.94	118.00	143.00	153.00	138.00	43.06	0.31
4B86A.A45B	85.56	115.51	116.37	117.22	116.37	30.80	0.26
50997.AA7B	43.41	69.66	97.46	81.49	82.87	39.45	0.48
58056.6A7B	59.80	81.07	82.03	83.75	82.28	22.48	0.27
660A4.566B	63.17	63.00	63.15	62.98	63.04	-0.12	0.00
66489.608C	14.36	70.77	97.55	50.04	72.79	58.43	0.80
6A764.B896	89.48	129.74	139.58	116.32	128.55	39.07	0.30
6AB48.0558	59.96	38.00	27.00	24.00	29.67	-30.29	-1.02
6CCC6.977A	57.75	69.31	69.88	72.77	70.65	12.90	0.18
756C0.5CA4	32.21	71.51	99.11	89.25	86.62	54.41	0.63
78A7C.CA98	37.39	52.21	98.33	97.10	82.55	45.16	0.55
7C75B.44C	53.42	93.00	97.09	90.85	93.65	40.23	0.43
85BB5.86A9	37.93	87.03	92.11	38.00	72.38	34.45	0.48
9B4C7.50A	87.72	96.40	97.00	98.00	97.13	9.42	0.10
A7C07.7BB7	46.05	47.00	46.50	46.10	46.53	0.48	0.01
A9C59.64A9	63.30	63.90	69.22	99.27	77.46	14.17	0.18
B4B70.886A	82.63	48.00	46.50	39.30	44.60	-38.03	-0.85
B7CA5.A475	40.27	57.00	50.00	40.50	49.17	8.89	0.18
B8CB.86	20.95	67.00	67.25	68.20	67.48	46.53	0.69
B94A.CA06	95.96	136.00	156.00	135.00	142.33	46.37	0.33
BB09C.8B48	90.36	108.00	108.65	109.35	108.67	18.31	0.17
BBA97.4494	19.53	95.57	52.89	42.19	63.55	44.02	0.69
C5740.BA8B	8.09	46.00	53.00	52.00	50.33	42.24	0.84
C9979.8A6C	60.51	96.82	75.04	82.90	84.92	24.41	0.29
Total	**1,426.26**	**1,982.06**	**2,116.16**	**1,942.68**	**2,013.64**	**587.38**	**5.98**

vii. Using the information above, identify the five products with the lowest margins. For these five products, create a “table” visualization displaying the total quantity sold. Filter the date to show the quantities for 2016, 2017, and 2018.

Analysis of Low Margin Items

ProductNumber	QuantitySold	Year
49A7.4A67	57	2016
49A7.4A67	4	2017
660A4.566B	732	2016
660A4.566B	601	2017
660A4.566B	163	2018
6AB48.0558	100	2016
6AB48.0558	26	2017
A7C07.7BB7	238	2016
A7C07.7BB7	243	2017
A7C07.7BB7	251	2018
B4B70.886A	37	2016
B4B70.886A	20	2017
B4B70.886A	6	2018
Total	**2478**	

Required #2

Memo

To: Partner
From: CPA, Audit Senior
Subject: Circuit Board Inc. (CBI) inventory valuation

Assess the situation:

Upon review of inventory data provided by CBI management for 2016-2018, I have identified five inventory items that are of concern. The analysis shows that the value of the inventory as at December 31, 2018, is inaccurate, as the net realizable value (sales prices) of these products is significantly lower than the original cost. Two other factors highlight concern: the margin on these particular items is significantly below CBI's average margin of 24%, and the historical sales of these products indicate that there is very low demand. CBI typically sells an average of 46 units of each of their products.

The tables below summarize the average margin of the five products for 2016-2018 and the quantity sold for the past three years.

Items with Low Average Margin (2016-2018)

Average Margin	ProductNumber
-0.31	49A7.4A67
0.00	660A4.566B
-1.02	6AB48.0558
0.01	A7C07.7BB7
-0.85	B4B70.886A
-2.18	

Analysis of Low Margin Items

ProductNumber	QuantitySold	Year
49A7.4A67	57.00	2016
49A7.4A67	4.00	2017
660A4.566B	732.00	2016
660A4.566B	601.00	2017
660A4.566B	163.00	2018
6AB48.0558	100.00	2016
6AB48.0558	26.00	2017
A7C07.7BB7	238.00	2016
A7C07.7BB7	243.00	2017
A7C07.7BB7	251.00	2018
B4B70.886A	37.00	2016
B4B70.886A	20.00	2017
B4B70.886A	6.00	2018
Total	**2,478.00**	

Analyze the issue:

- Product 49A7.4A67: margin of -31%; CBI has not sold any items in 2018. The average number of units sold for all three years would be 18.
- Product 660A4.566B: margin of 0.0%; CBI has consistently sold large volumes of the product in 2016-2018; average of 499 units per year.
- Product 6AB48.0558: margin of -102%; CBI has not sold any items in 2018. The average number of units sold for all three years would be 42.
- Product A7C07.7BB7: margin of 1%; CBI has consistently sold large volumes of the product in 2016-2018; average of 244 units per year.
- Product B4B70.886A: margin of -85%; CBI has sold the product in 2016-2018; average of 21 units per year.

Conclude and advise:

Upon review of the average margins and quantity of the product sold for 2016-2018, it is recommended that CBI write down the value of any remaining inventory for products 49A7.4A67, 6AB48.0558, and B4B70.886A to the net realizable value (the average sales price). A writedown of these products is further supported by the slow movement of the products. The average number of units sold is significantly below CBI's average of 46 units per product.

CBI should review its cost methods for products 660A4.566B and A7C07.7BB7. While the margins are not negative, they are very close to zero. There is high demand for these products, which might indicate that CBI is charging too low of a price for these products. CBI should carefully monitor these products to ensure that it is maintaining the inventory at proper values.

customerID	InvoiceNumber	Outstanding	Year	Month	Day	DaysLate
0379-NEVHP	611365	155.94	2015	January	2	1429
1604-LIFKX	19255484719	128.38	2017	June	30	1038
2824-HJQPP	14923124465	3.34	2017	January	18	712
1604-LIFKX	676551273	82.74	2017	February	1	668
0625-TNJFG	761602627	1,064.16	2017	February	2	667
1604-LIFKX	1913883700	44.91	2017	February	10	659
2824-HJQPP	7096221227	66.59	2017	February	15	654
2676-DZINU	2742482273	263.98	2017	January	28	648
1604-LIFKX	2099442850	73.10	2017	March	1	640
1604-LIFKX	2135320728	66.32	2017	March	13	628
1604-LIFKX	2430916585	63.45	2017	March	17	624
1604-LIFKX	3037486776	79.37	2017	March	28	613
2125-HJDLA	3975362830	6.35	2017	March	15	605
1604-LIFKX	3388733623	58.17	2017	April	15	595
2026-XLBER	3398429374	3.45	2017	April	14	587
1604-LIFKX	3693123052	47.82	2017	May	1	579
1604-LIFKX	5046787811	77.66	2017	May	10	570
1604-LIFKX	5395803659	51.64	2017	May	22	558
1604-LIFKX	5672264098	52.62	2017	May	28	552
1604-LIFKX	5715617144	59.91	2017	June	2	547
1604-LIFKX	5928070131	97.60	2017	June	5	544
1604-LIFKX	7550415361	83.65	2017	June	8	541
1604-LIFKX	7584011927	68.61	2017	June	9	540
1604-LIFKX	8030080145	87.16	2017	June	13	536
2026-XLBER	6902670844	2.20	2017	January	13	532
1604-LIFKX	8780390122	87.95	2017	June	18	531
1604-LIFKX	9385395392	54.41	2017	June	19	530
2026-XLBER	3115534110	3.53	2017	May	9	503
0379-NEVHP	1604888971	178.57	2017	July	20	499
0625-TNJFG	4084102990	64.16	2017	August	2	486
0379-NEVHP	2748334767	161.66	2017	August	20	468
2026-XLBER	7329436593	2.19	2017	February	21	433
2026-XLBER	8056734091	2.54	2017	September	11	421
2621-XCLEH	6837368660	52.95	2017	October	1	402
2026-XLBER	7685298565	3.12	2017	October	26	382
0379-NEVHP	3699989123	1,062.88	2017	December	20	346
2026-XLBER	9368067229	7.26	2017	October	6	344
2423-QOKIO	1715841585	66.85	2017	October	19	343
2125-HJDLA	3171200707	8.10	2017	May	20	321
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	**780576054131**	**22,507.42**				**30756**

Solution to Question 2

i.

customerID	InvoiceNumber	Outstanding
1447-YZKCL	137681845571	8,446.28
0379-NEVHP	120989080775	6,869.31
1080-NDGAE	132067434876	3,197.93
0187-ERLSR	94432598912	2,658.54
2621-XCLEH	86357407395	1,607.29
1604-LIFKX	107719779096	1,365.47
0625-TNJFG	145923145046	1,128.32
0783-PEPYR	108593049393	664.25
0688-XNJRO	153182535167	534.21
2447-JCFGW	127619717783	269.51
2676-DZINU	142056525037	263.98
1408-OQZUE	116581491524	211.80
2687-XWAMA	162922929125	176.90
2824-HJQPP	186022768890	138.98
1168-BEASA	126885729700	104.38
0465-DTULQ	121975849935	76.21
2125-HJDLA	104509012295	68.72
2423-QOKIO	122317398822	66.85
2026-XLBER	119772710733	63.32
0709-LZRJV	138399650536	28.35
3271-HYHDN	76608092542	24.33
0706-NRGUP	102897415419	0.00
2820-XGXSB	116028402130	0.00
Total	**2851544570702**	**27,964.93**

Note: Not all rows are shown on screenshots.

ii.

customerID	InvoiceNumber	Outstanding	Year	Month	Day	DaysLate
0187-ERLSR	9744145268	2,551.65	2018	October	15	47
0379-NEVHP	9831463047	2,033.23	2018	October	7	55
2621-XCLEH	12779822794	1,124.41	2018	May	3	229
1447-YZKCL	8401420623	1,116.66	2018	September	16	76
1447-YZKCL	9647532335	1,105.90	2018	November	11	20
0379-NEVHP	9814992757	1,103.64	2018	September	7	85
0379-NEVHP	8893171508	1,068.49	2018	November	20	11
0625-TNJFG	761602627	1,064.16	2017	February	2	667
0379-NEVHP	3699989123	1,062.88	2017	December	20	346
1447-YZKCL	8137093063	978.69	2018	September	2	90
1447-YZKCL	7859471043	879.39	2018	August	19	104
1447-YZKCL	7665948122	767.87	2018	August	5	118
1447-YZKCL	7218760518	662.93	2018	July	22	132
1447-YZKCL	7167433652	548.47	2018	July	8	146
1447-YZKCL	6655280733	470.75	2018	June	24	160
1447-YZKCL	8965430329	461.60	2018	October	28	34
1447-YZKCL	8788784425	373.29	2018	October	14	48
1447-YZKCL	6470819411	344.77	2018	June	10	174
1447-YZKCL	8427086210	287.27	2018	September	30	62
1447-YZKCL	5893003141	271.36	2018	May	27	188
2676-DZINU	2742482273	263.98	2017	January	28	648
2621-XCLEH	97717897	214.19	2018	May	21	170
0379-NEVHP	1604888971	178.57	2017	July	20	499
1447-YZKCL	5750325838	177.33	2018	May	13	202
0379-NEVHP	2748334767	161.66	2017	August	20	468
0379-NEVHP	611365	155.94	2015	January	2	1429
1604-LIFKX	19255484719	128.38	2017	June	30	1038
Total	**780576054131**	**22,507.42**				**30756**

By adding a DaysLate filter to the outstanding list and making the value greater than 0 in the filter, we can eliminate all outstanding invoices that are not yet “due” (that is, the 30-day payment term has not been exceeded). This lets us focus on customers (and invoices) that are truly delinquent.

iii. We can see from the sorted list that customer 0379-NEVHP is the customer with the oldest invoice, at 1429 days late. This would lead us to question whether this account should be written off.

customerID	InvoiceNumber	Outstanding	Year	Month	Day	DaysLate
0379-NEVHP	611365	155.94	2015	January	2	1429
1604-LIFKX	19255484719	128.38	2017	June	30	1038
2824-HJQPP	14923124465	3.34	2017	January	18	712
1604-LIFKX	676551273	82.74	2017	February	1	668
0625-TNJFG	761602627	1,064.16	2017	February	2	667
1604-LIFKX	1913883700	44.91	2017	February	10	659
2824-HJQPP	7096221227	66.59	2017	February	15	654
2676-DZINU	2742482273	263.98	2017	January	28	648
1604-LIFKX	2099442850	73.10	2017	March	1	640
1604-LIFKX	2135320728	66.32	2017	March	13	628
1604-LIFKX	2430916585	63.45	2017	March	17	624
1604-LIFKX	3037486776	79.37	2017	March	28	613
2125-HJDLA	3975362830	6.35	2017	March	15	605
1604-LIFKX	3388733623	58.17	2017	April	15	595
2026-XLBER	3398429374	3.45	2017	April	14	587
1604-LIFKX	3693123052	47.82	2017	May	1	579
1604-LIFKX	5046787811	77.66	2017	May	10	570
1604-LIFKX	5395803659	51.64	2017	May	22	558
1604-LIFKX	5672264098	52.62	2017	May	28	552
1604-LIFKX	5715617144	59.91	2017	June	2	547
1604-LIFKX	5928070131	97.60	2017	June	5	544
1604-LIFKX	7550415361	83.65	2017	June	8	541
1604-LIFKX	7584011927	68.61	2017	June	9	540
1604-LIFKX	8030080145	87.16	2017	June	13	536
2026-XLBER	6902670844	2.20	2017	January	13	532
1604-LIFKX	8780390122	87.95	2017	June	18	531
1604-LIFKX	9385395392	54.41	2017	June	19	530
2026-XLBER	3115534110	3.53	2017	May	9	503
0379-NEVHP	1604888971	178.57	2017	July	20	499
0625-TNJFG	4084102990	64.16	2017	August	2	486
0379-NEVHP	2748334767	161.66	2017	August	20	468
2026-XLBER	7329436593	2.19	2017	February	21	433
2026-XLBER	8056734091	2.54	2017	September	11	421
2621-XCLEH	6837368660	52.95	2017	October	1	402
2026-XLBER	7685298565	3.12	2017	October	26	382
0379-NEVHP	3699989123	1,062.88	2017	December	20	346
2026-XLBER	9368067229	7.26	2017	October	6	344
2423-QOKIO	1715841585	66.85	2017	October	19	343
2125-HJDLA	3171200707	8.10	2017	May	20	321
Total	**780576054131**	**22,507.42**				**30756**