

# Data Technician

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**Course Date: 16/12/24**

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## **Day 1: Task 1**

Please complete the below boxes on commons laws and regulations that must be followed when working with customers data, use the below bulleted list to support your answers.

- What is it
- Why is it important
- Provide a real-world example of how you can follow it
- How does it impact working with data
- What could happen if you breached it

### **Data Protection Act**

1. What is it?  
The Data Protection Act is a law that controls how personal information is collected, stored, used, and shared.
2. Why is it important?  
It protects people's privacy and makes sure organisations keep personal data safe.
3. Real-world example of following it.  
Keep personal information secure, such as locking files away or using strong passwords.
4. How does it impact working with data?  
Only share data with people who are allowed to see it.



	<p>You must handle data carefully, keep it secure, only collect what you need, keep it accurate, and not keep it for too long.</p> <p>5. What could happen if you breached it?</p> <p>You or your organisation could face fines, legal trouble, loss of trust, and possible disciplinary action at work.</p>
<b>GDPR</b>	<p>1. What is it?</p> <p>GDPR (General Data Protection Regulation) is a set of rules that protects people's personal data and gives them more control over how it's used.</p> <p>2. Why is it important?</p> <p>It keeps personal information safe and makes sure organisations are honest and careful with the data they collect.</p> <p>3. Real-world example of following it</p> <p>Ask for permission before collecting someone's data, store it securely, and only use it for the reason you said you would.</p> <p>4. How does it impact working with data?</p> <p>You must follow strict rules, keep data secure, record how it's used, and make sure people can access or delete their information if they ask.</p> <p>5. What could happen if you breached it?</p> <p>Organisations can face very large fines, lose customer trust, and staff may face disciplinary action.</p>
<b>Freedom of Information Act</b>	<p>1. What is it?</p> <p>The Freedom of Information Act is a law that gives the public the right to ask for information held by public organisations (like councils, schools, the NHS, or the police).</p> <p>2. Why is it important?</p> <p>It helps make public organisations open and accountable, so people can see how decisions are made and how money is spent.</p> <p>3. Real-world example of following it</p> <p>If someone requests information, you respond within the time limit (usually 20 working days), provide the information if allowed, or explain why it can't be shared</p> <p>.</p> <p>4. How does it impact working with data?</p> <p>Staff must store information properly so it can be found, understand what can and cannot be shared, and follow rules when answering requests.</p> <p>5. What could happen if you breached it?</p> <p>An organisation could be investigated, told to release information, criticised publicly, or face legal consequences for failing to follow the law.</p>
<b>Computer Misuse Act</b>	<p>1. What is it?</p> <p>The Computer Misuse Act is a law that makes it illegal to access or use computer systems without permission.</p> <p>2. Why is it important?</p> <p>It protects computers, networks, and data from hacking, viruses, and other cyber-crimes.</p> <p>3. Real-world example of following it</p> <p>Only log into accounts you're allowed to use, never guess someone's password, and don't install software without permission.</p> <p>4. How does it impact working with data?</p> <p>You must use systems responsibly, follow security rules, and avoid accessing information you're not authorised to see.</p> <p>5. What could happen if you breached it?</p>



You could face criminal charges, fines, or imprisonment, and you could lose your job or damage the organisation's security.

## Day 2: Task 1

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste a print screen into the provided boxes below:

1. In the sheet 'retail\_sales\_dataset' add all available data between columns A – J into a 'table'
  2. Using the 'sort' function, sort 'Age' to 'largest to smallest'
  3. Using the 'SUM' function, show me the commission total in cell 'L10'
  4. Using the 'AVERAGE' function, show me the average commission in cell 'L11'

## Print screen 1

I2	A	B	C	D	E	F	G	H	I	J
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023
2	1.00	11/24/2023	CUST001	Male	34	Beauty	3	£ 50	150	£ 2.25
3	2.00	2/27/2023	CUST002	Female	26	Clothing	2	£ 500	1000	£ 15.00
4	3.00	1/13/2023	CUST003	Male	50	Electronics	1	£ 30	30	£ 0.45
5	4.00	5/21/2023	CUST004	Male	37	Clothing	1	£ 500	500	£ 7.50
6	5.00	5/6/2023	CUST005	Male	30	Beauty	2	£ 50	100	£ 1.50
7	6.00	4/25/2023	CUST006	Female	45	Beauty	1	£ 30	30	£ 0.45
8	7.00	3/13/2023	CUST007	Male	46	Clothing	2	£ 25	50	£ 0.75
9	8.00	2/22/2023	CUST008	Male	30	Electronics	4	£ 25	100	£ 1.50

## Print screen 2

## Print screen 3

## Print screen 4

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023			
2	14.00	1/17/2023	CUST014	Male	64	Clothing	4	£ 30	120	£ 1.80			
3	25.00	1/26/2023	CUST025	Female	64	Beauty	1	£ 50	50	£ 0.75			
4	80.00	12/10/2023	CUST080	Female	64	Clothing	2	£ 30	60	£ 0.90			
5	12.00	1/03/2023	CUST122	Male	64	Electronics	4	£ 30	120	£ 1.80			
6	161.00	3/22/2023	CUST161	Male	64	Beauty	2	£ 500	1000	£ 15.00			
7	163.00	3/1/2023	CUST163	Female	64	Clothing	3	£ 50	150	£ 2.25			
8	173.00	1/18/2023	CUST173	Male	64	Electronics	4	£ 30	120	£ 1.80			
9	187.00	6/7/2023	CUST187	Female	64	Clothing	2	£ 50	100	£ 1.50			
10	191.00	10/18/2023	CUST191	Male	64	Beauty	1	£ 25	25	£ 0.38			
11	218.00	9/22/2023	CUST218	Male	64	Beauty	3	£ 30	90	£ 1.35			
12	220.00	3/3/2023	CUST220	Male	64	Beauty	1	£ 500	500	£ 7.50			
											Total Commissns	£ 6,840	
											Average Commisn	£ 4.80	



## Day 2: Task 2

Please research and complete the following tasks within the retail-sales\_dataset.xlsx document, paste print screens into the provided box below:

Student name	English	Mathematic	Science	Average	Highest score	
Carol	75	85	85			
Ted	80	75	90			
Khan	85	75	80			
Harry	80	70	80			
Sarah	80	70	80			
John	65	80	70			
Linda	90	50	70			
Edward	55	80	60			
Mary	55	70	65			
Thomas	55	30	65			

### Task

- 1) Apply filter and sorting to show the best students in each subject.
- 2) Calculate the average for all students and fill into Column E. (Use formula)
- 3) Using the =MAX function, tell me what the students highest score was in column F.
- 4) Apply filter and sorting to show the best student in this classroom by average.
- 5) Apply filter and sorting to show the best student in this classroom by highest score.
- 6) Use conditional formatting to clearly identify the highest and lowest average scores

Print screen 1

Sorting by Average:						
Student name	English	Mathematics	Science	Average	Highest score	
Ted	80	75	90	82	90	
Carol	75	85	85	82	85	
Khan	85	75	80	80	85	
Harry	80	70	80	77	80	
Sarah	80	70	80	77	80	
John	65	80	70	72	80	
Linda	90	50	70	70	90	
Edward	55	80	60	65	80	
Mary	55	70	65	63	70	
Thomas	55	30	65	50	65	



Sorting by Highest Score:

Student name	English	Mathematics	Science	Average	Highest score
Ted	80	75	90	82	90
Linda	90	50	70	70	90
Carol	75	85	85	82	85
Khan	85	75	80	80	85
Harry	80	70	80	77	80
Sarah	80	70	80	77	80
John	65	80	70	72	80
Edward	55	80	60	65	80
Mary	55	70	65	63	70
Thomas	55	30	65	50	65

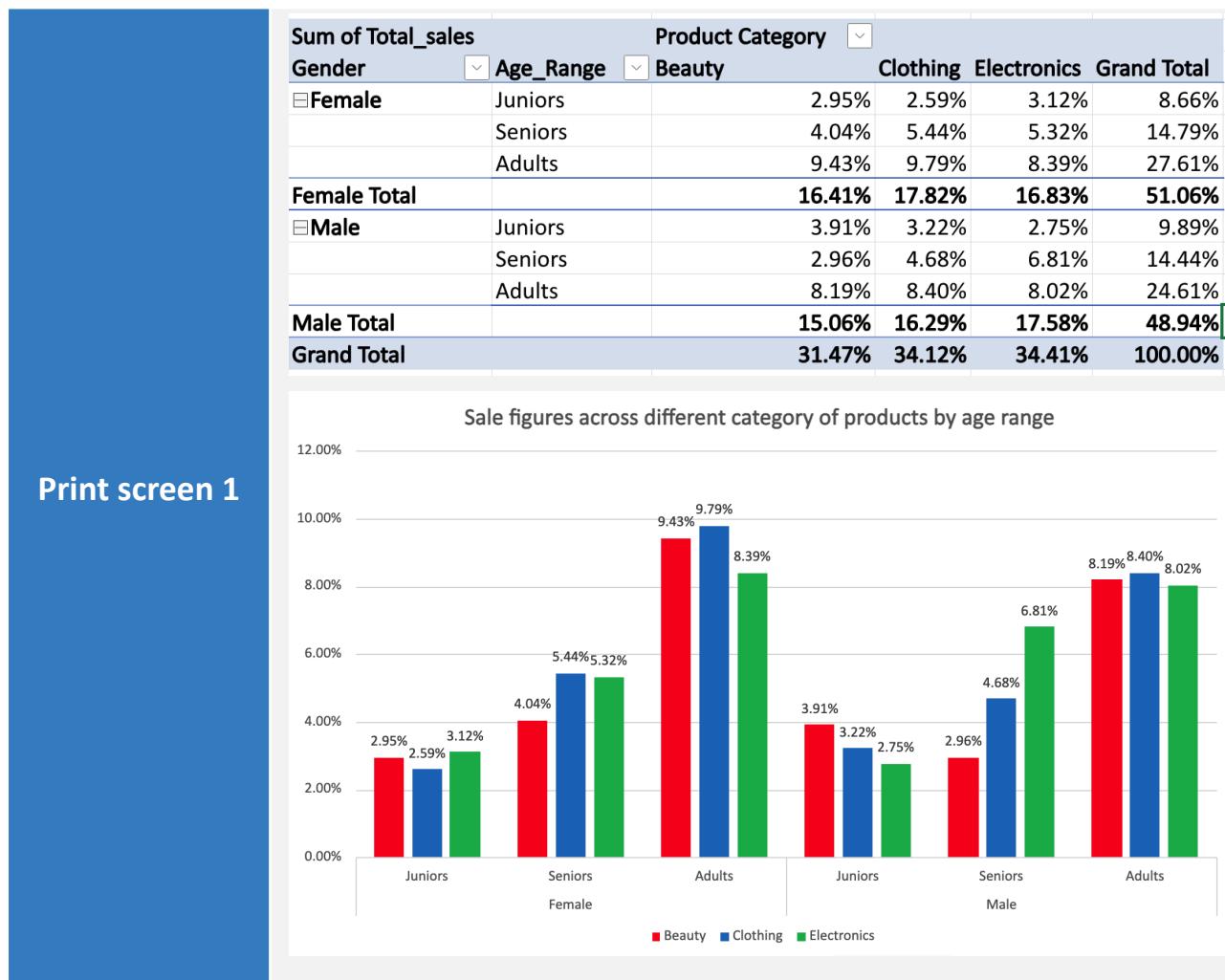
Conditional formatting, students who scored:

Greater than 79=Green, Between 79–69 = Yellow, Between 69– 51= Orange, Less than 51 = Red



## Day 2: Task 3

Using the skills developed today, have some fun with the data set you have imported. Paste your work below and enjoy!



## Day 3: Task 1

Please download the dataset 'Day\_3\_Task\_1\_Bike\_Sales\_Pivot\_Lab.xlsx' and the lab instructions.

Do not worry if you do not complete the lab, just working with data and playing with the pivot table will be good experience.

Please paste your final pivot table below and complete the reflection questions:

### Print screen 1

Age_Group	Country	Sum of Year	Sum of Order_Quantity
Adults (35-64)	Australia	28294	32
	Germany	12126	13
	United States	2021	2
	United Kingdom	8084	4
	United States	42441	47
	United States	2021	1
<b>Adults (35-64) Total</b>		<b>94987</b>	<b>99</b>
Young Adults (25-34)	Australia	18189	20
	Canada	12126	11
	France	10105	10
	United Kingdom	4042	4
	United States	18189	16
<b>Young Adults (25-34) Total</b>		<b>62651</b>	<b>61</b>
Youth (<25)	Australia	8084	11
	France	6063	10
	United Kingdom	6063	6
<b>Youth (&lt;25) Total</b>		<b>20210</b>	<b>27</b>
<b>Grand Total</b>		<b>177848</b>	<b>187</b>

In which markets does Germany have customers?

Age_Group	Country	Sum of Order_Quantity
Adults (35-64)	Germany	13
<b>Adults (35-64) Total</b>		<b>13</b>
<b>Grand Total</b>		<b>13</b>

What country has sales in all markets?

Age_Group	Country	Sum of Order_Quantity
Adults (35-64)	Australia	32
<b>Adults (35-64) Total</b>		<b>32</b>
Young Adults (25-34)	Australia	20
<b>Young Adults (25-34) Total</b>		<b>20</b>
Youth (<25)	Australia	11
<b>Youth (&lt;25) Total</b>		<b>11</b>
<b>Grand Total</b>		<b>63</b>



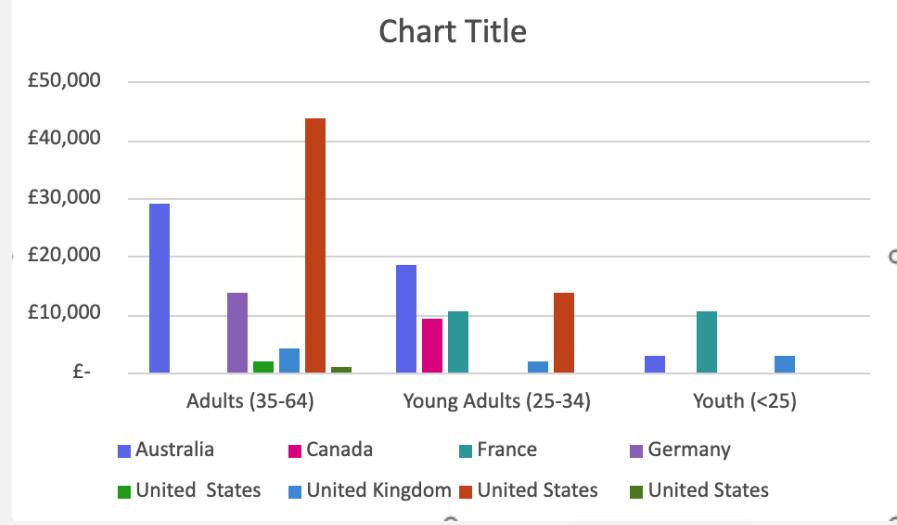
**What are the most profitable markets by country, age group, and gender?**

Country	Sum of Year	Sum of Profit
Australia	54567	£ 50,326
Canada	12126	£ 9,123
France	16168	£ 20,981
Germany	12126	£ 13,636
United States	2021	£ 2,086
United Kingdom	18189	£ 9,072
United States	60630	£ 57,241
United States	2021	£ 1,043
<b>Grand Total</b>	<b>177848</b>	<b>£ 163,508</b>

Customer_Gender	Sum of Year	Sum of Profit
F	101050	£ 97,543
M	76798	£ 65,965
<b>Grand Total</b>	<b>177848</b>	<b>£ 163,508</b>

Age_Group	Country	Sum of Year	Sum of Profit
Adults (35-64)		94987	£ 93,496
Young Adults (25-34)		62651	£ 53,962
Youth (<25)		20210	£ 16,050
<b>Grand Total</b>		<b>177848</b>	<b>£ 163,508</b>

**Any other findings?**



## Day 3: Task 2

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

- **Create a Pivot Table** to summarise the data by county and product.
- **Use the SWITCH function** to categorise products based on their sales volume.

County	Product	Sales Volume
Yorkshire	Laptops	500
Yorkshire	Smartphones	200
Cornwall	Laptops	700
Cornwall	Printers	400
Lancashire	Smartphones	150
Lancashire	Laptops	600
Essex	Printers	800
Essex	Smartphones	300
Durham	Laptops	250
Durham	Printers	300
Greater Manchester	Smartphones	600
Greater Manchester	Laptops	400

### *Dataset: Step 1: Create a Pivot Table*

- Select the dataset (columns A to C).
- Insert a Pivot Table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

### *Step 2: Use the SWITCH Function*

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

- For sales greater than 600: "**High**"
- For sales between 300 and 600: "**Medium**"
- For sales less than 300: "**Low**"

#### **SWITCH Function Example:**

```
=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")
```

- Apply this formula to each row, and check if the products are categorised correctly.



## Submission:

- A completed Pivot Table summarising sales by county and product.
- A new column in the dataset categorising products by sales volume using the SWITCH function.
  - Please paste your completed work below

County	Product	Sum of Sales Volume		Grand Total
		Laptops	Printers	
Cornwall	High	700		700
	Medium		400	400
<b>Cornwall Total</b>		<b>700</b>	<b>400</b>	<b>1100</b>
Durham	Low	250		250
	Medium		300	300
<b>Durham Total</b>		<b>250</b>	<b>300</b>	<b>550</b>
Essex	High		800	800
	Medium			300
<b>Essex Total</b>		<b>800</b>	<b>300</b>	<b>1100</b>
Greater Manchester	Medium	400		600
			<b>400</b>	<b>600</b>
<b>Greater Manchester Total</b>		<b>400</b>	<b>600</b>	<b>1000</b>
Lancashire	Low			150
	Medium	600		600
<b>Lancashire Total</b>		<b>600</b>	<b>150</b>	<b>750</b>
Yorkshire	Low			200
	Medium	500		500
<b>Yorkshire Total</b>		<b>500</b>	<b>200</b>	<b>700</b>
<b>Grand Total</b>		<b>2450</b>	<b>1500</b>	<b>1250</b>
				<b>5200</b>

**Total**

County	Product	Sales Volume	SWITCH Function
Yorkshire	Laptops	500	=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")
Yorkshire	Smartphones	200	=SWITCH(TRUE, C3 > 600, "High", C3 >= 300, "Medium", "Low")
Cornwall	Laptops	700	=SWITCH(TRUE, C4 > 600, "High", C4 >= 300, "Medium", "Low")
Cornwall	Printers	400	=SWITCH(TRUE, C5 > 600, "High", C5 >= 300, "Medium", "Low")
Lancashire	Smartphones	150	=SWITCH(TRUE, C6 > 600, "High", C6 >= 300, "Medium", "Low")
Lancashire	Laptops	600	=SWITCH(TRUE, C7 > 600, "High", C7 >= 300, "Medium", "Low")
Essex	Printers	800	=SWITCH(TRUE, C8 > 600, "High", C8 >= 300, "Medium", "Low")
Essex	Smartphones	300	=SWITCH(TRUE, C9 > 600, "High", C9 >= 300, "Medium", "Low")
Durham	Laptops	250	=SWITCH(TRUE, C10 > 600, "High", C10 >= 300, "Medium", "Low")
Durham	Printers	300	=SWITCH(TRUE, C11 > 600, "High", C11 >= 300, "Medium", "Low")
Greater Manchester	Smartphones	600	=SWITCH(TRUE, C12 > 600, "High", C12 >= 300, "Medium", "Low")
Greater Manchester	Laptops	400	=SWITCH(TRUE, C13 > 600, "High", C13 >= 300, "Medium", "Low")

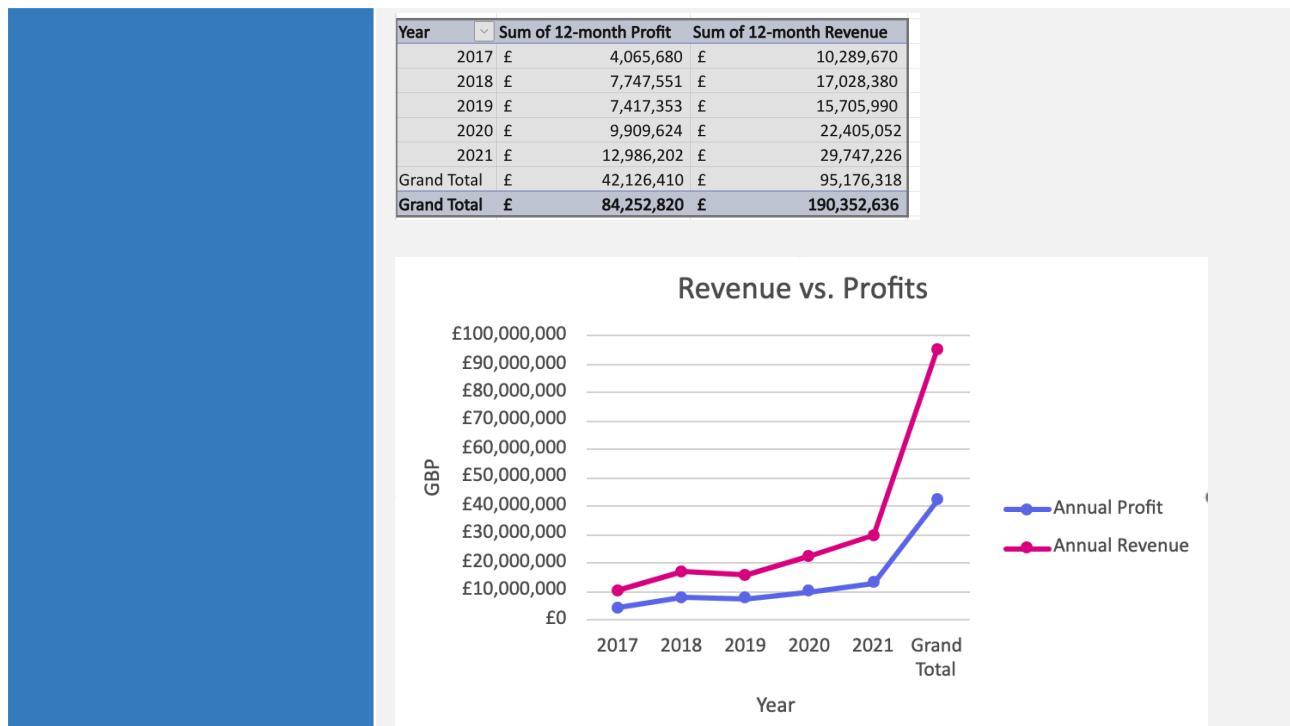




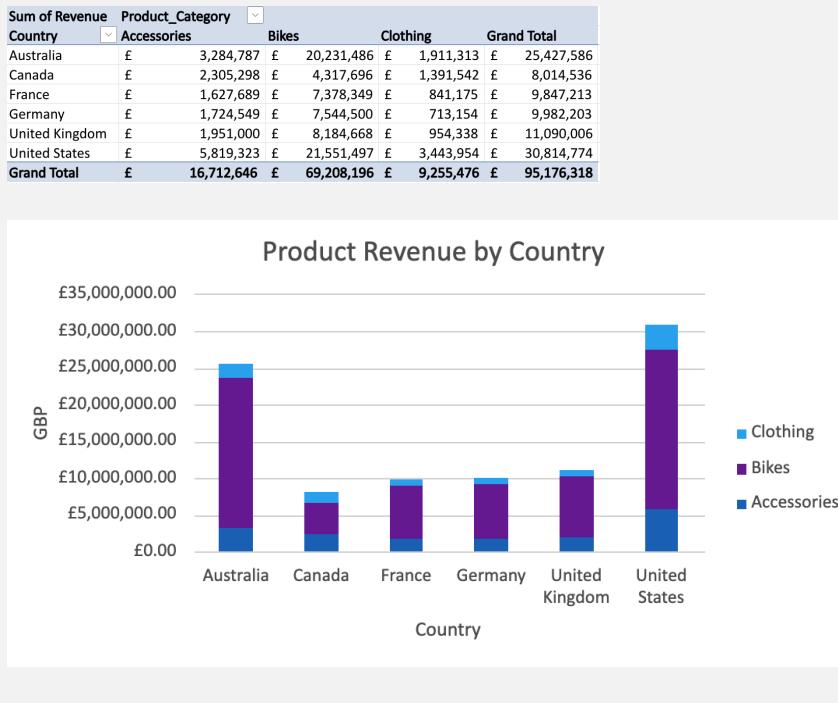
## Day 3: Task 3

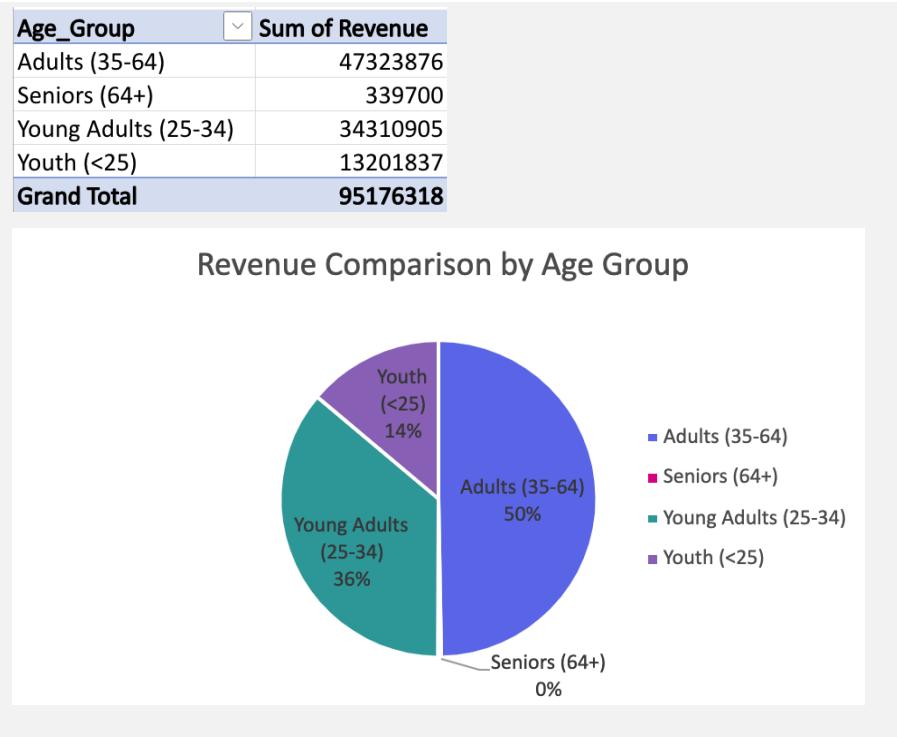
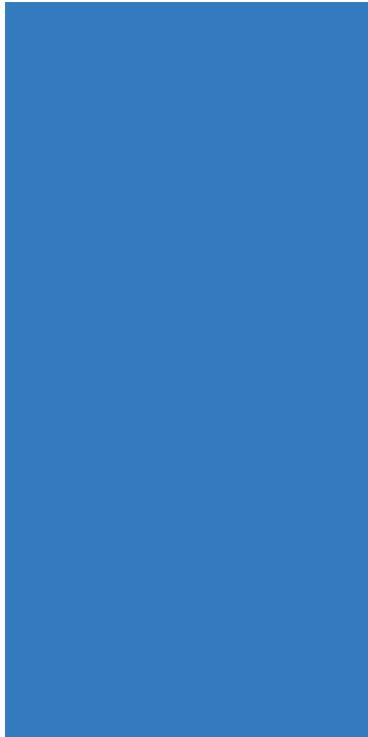
Please download the dataset 'Day\_3\_Task\_3\_Bike\_Sales\_Visualisations\_Lab.xlsx' and the lab instructions. Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below: The Task PDF asked me to change currency to \$ however i converted my charts to £ to make this my own.



### Print screen 1





## Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, with your analysis you have identified that customers are leaving your company at the 12-month point, this is typically when they receive their renewal price.

Conduct research and complete the below questions:

<b>How would you prepare for the delivery?</b>	Using clean data verify your findings of customers who decide not to proceed after the renewal price after a year. Create a concise, executive-friendly narrative that goes like this: problem – evidence – impact – recommendation. Make concise charts and a one-page synopsis. Practice asking difficult questions and practicing your delivery. Key leaders should be briefed in advance to avoid any surprises.
<b>What tools would you use for the delivery?</b>	<b>Power BI</b> or <b>Tableau</b> – create clean visuals. <b>Excel</b> – collate data and create tables. <b>Python</b> – reproducible analysis. <b>PowerPoint</b> – to present findings.
<b>What is prospecting and why would you complete this before your delivery?</b>	Prospecting is when you speak to key stakeholders before the presentation. The reason you do this is to best recognise their priorities, obtain early feedback, avoid surprises, and to boost support for your suggestions.
<b>Tell me best practices for public speaking and providing updates to senior leaders</b>	Lead with a headline and the decision needed. Slides should be simple and visually appealing. Be brief, precise, and data-driven. We should be prepared for enquiries and follow up questions. Pause in between statements, speak with assurance, and go more slowly. Be transparent about assumptions and limits.
<b>What will you show the board in your delivery?</b>	A one-slide headline: “Major Customer drop-off at month 12 due to renewal pricing.” A visual showing the drop at month 12. The financial impact and lost revenue. Segments affected most. Recommended actions and expected impact.
<b>How will you articulate the changes that are needed?</b>	State the problem in one clear statement. Show the charts that prove it. Present 2–3 options. Recommend one option with expected results, cost, and timeline. Conclude with clear actions needed.



<p><b>Provide a list of online resources and videos that will support your preparation for public speaking</b></p>	<p>TED Talks on public speaking and storytelling. Toastmasters to help with practical speaking skills. YouTube: Kevin Stratvert PowerPoint/Power BI tutorials.</p>
<p><b>Evaluate tools that provide visualisation.</b></p>	<p><b>Excel:</b> Quick visual analysis, pivot charts, and basic charts. <b>Power BI:</b> Interactive dashboards are useful for business presentations. <b>Tableau:</b> Superior information presentation and visual dashboards. <b>Python:</b> sophisticated, customisable graphics.</p>
<p><b>Tell me what they are.</b></p>	<p><b>Excel:</b> A spreadsheet program for making simple summaries and graphs. <b>Power BI:</b> An interactive report-building tool for business intelligence. <b>Tableau:</b> is a visual analytics solution that emphasises dashboards that are easy to use and visually appealing. <b>Python:</b> Complex analytical visualisation based on code.</p>
<p><b>Tell me what you would choose when delivering your presentation and why</b></p>	<p>I would choose <b>Excel</b> to help me collate and analyze my data. <b>Power BI</b>, to generate sleek, interactive dashboards for directors. The data can be reviewed by stakeholders (explore into why consumers leave after 12 months). It appears trendy and well-prepared for business. It links to Excel and other workplace data sources with ease. <b>PowerPoint</b> to create engaging slides. These are reliable, familiar to boards, clean visuals, easy to update, low demo risk.</p>



## Course Notes

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class:



We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

## **END OF WORKBOOK**

**Please check through your work thoroughly before submitting and update the table of contents if required.**

**Please send your completed work booklet to your trainer.**

