Just IT

B2W group

Apprenticeships | Training | Recruitment

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	**What is it**: The UK's primary legislation governing the processing of personal data. It incorporates the principles of the EU's GDPR into UK law and provides specific UK provisions and exemptions. It

	sets rules for how organizations must handle personal information. **Why is it important**: It protects individuals' fundamental right to privacy regarding their personal data. It builds trust between customers and organizations, ensuring data is used fairly, lawfully, and transparently. **Real-world example of how to follow it**: When collecting customer information for an online purchase, only ask for data essential for the transaction (name, address, payment details). Clearly state in a privacy policy why this data is needed, how long it will be kept, and who it might be shared with (e.g., courier). Ensure the data is stored securely (e.g., encrypted database) and obtain separate, explicit consent if you want to use their email for marketing. **How does it impact working with data**: It mandates key principles like data minimization (collecting only necessary data), purpose limitation (using data only for specified reasons), accuracy (keeping data correct), storage limitation (not keeping data longer than needed), integrity and confidentiality (security), and accountability (demonstrating compliance). Requires robust procedures for handling data subject rights (access, correction, deletion). **What could happen if you breached it**: Significant fines (up to £17.5 million or 4% of global annual turnover, whichever is higher), legal action from affected individuals seeking compensation, enforcement actions from the Information Commissioner's Office (ICO), severe reputational damage, and loss of customer trust.
GDPR	**What is it**: An EU regulation that sets the benchmark for data protection law globally. It applies to any organization processing the personal data of individuals residing in the EU/EEA, regardless of the organization's location. **Why is it important**: It harmonizes data protection laws across the EU, strengthens individuals' rights over their data, and aims to give citizens back control over their personal information in the

	digital age. It has a significant global impact due to its extraterritorial reach. **Real-world example of how to follow it**: A company using website analytics must obtain clear, affirmative consent before placing tracking cookies on the browser of a visitor from the EU. They need to provide granular options for consent and make it easy for the user to withdraw consent later. Data Processing Agreements (DPAs) must be in place with third-party vendors (like cloud providers) who handle personal data of EU residents. **How does it impact working with data**: Imposes strict requirements for consent (must be freely given, specific, informed, unambiguous), enhances data subject rights (including the right to data portability and the right to be forgotten), mandates Data Protection Impact Assessments (DPIAs) for high-risk processing, requires prompt data breach notifications (within 72 hours), and necessitates detailed record-keeping (Records of Processing Activities - RoPA). **What could happen if you breached it**: Very substantial fines (up to €20 million or 4% of global annual turnover, whichever is higher), regulatory orders to cease processing or bring practices into compliance, lawsuits from data subjects, significant reputational harm.
Freedom of Information Act	**What is it**: A UK law providing a general right of access for the public to information held by public authorities (e.g., government departments, local councils, NHS trusts, state schools, police forces). It's about transparency of public bodies, not primarily customer data in the private sector sense. **Why is it important**: Promotes transparency and accountability in the public sector. Allows citizens, journalists, and organizations to understand how public authorities operate and make decisions. **Real-world example of how to follow it**: A citizen requests information from their local council about spending on road maintenance in their area. The council must search for this information and provide it within 20 working days, unless a valid exemption applies. Crucially, if the requested information contains personal data (e.g., names of council employees not in

	senior public-facing roles, or details of residents who made complaints), this personal data must be redacted or withheld according to Data Protection Act principles before releasing the rest of the information under FOIA. **How does it impact working with data**: Primarily impacts public sector organizations. Requires them to have systems to manage, retrieve, and disclose information upon request. Importantly, it intersects with data protection law – public authorities must balance the right to information under FOIA with the obligation to protect personal data under DPA/GDPR. Personal data is generally exempt from disclosure under FOIA unless disclosure complies with data protection principles. **What could happen if you breached it**: For failure to comply with an FOIA request (e.g., unjustified delay, improper refusal): Enforcement notices from the Information Commissioner's Office (ICO), potentially leading to contempt of court proceedings if ignored. Reputational damage for the public authority. If personal data is wrongly disclosed as part of an FOIA response, this constitutes a breach of the Data Protection Act, leading to DPA/GDPR penalties.
Computer Misuse Act	**What is it**: UK law that criminalizes unauthorized access to computer systems, data, or programs ("hacking"), unauthorized access with intent to commit further offences, and unauthorized acts with intent to impair (or recklessness as to impairing) the operation of a computer (e.g., distributing viruses, DDoS attacks). **Why is it important**: Protects the integrity, confidentiality, and availability of computer systems and the data they hold. It provides the legal basis for prosecuting cybercrime like hacking and malware distribution. **Real-world example of how to follow it**: Ensuring you only access computer systems, files, and data (including customer databases) that you have explicit permission and authorization to use for your job role. Do not attempt to guess passwords, use colleagues' logins, or access folders or databases outside your remit, even out of curiosity. Report any suspected unauthorized access immediately.

How does it impact working with data: It makes any unauthorized access to data held on a computer a criminal offence. This underpins the need for robust IT security, access controls, user permissions, and clear policies on acceptable use of company systems. It applies to employees as well as external attackers.

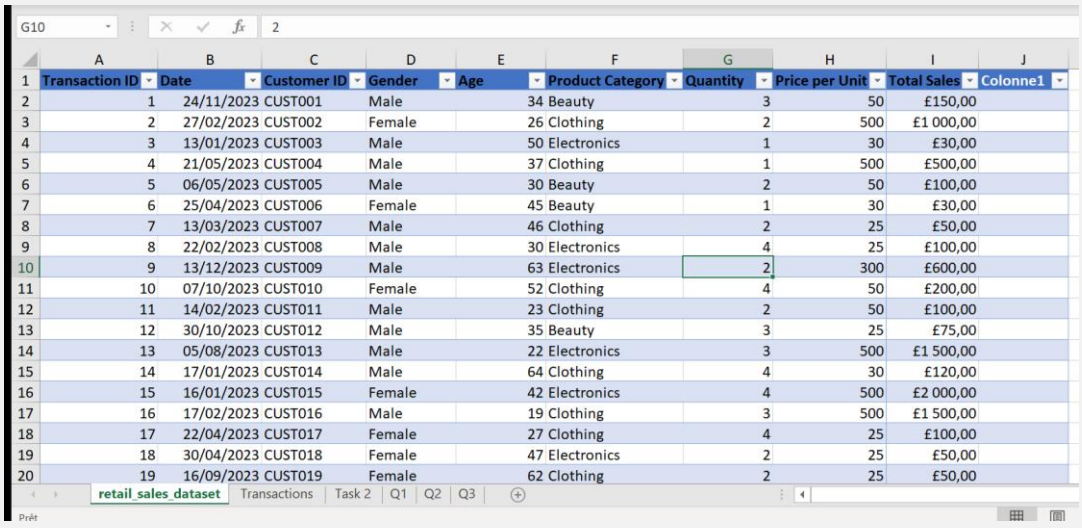
What could happen if you breached it: Criminal prosecution leading to potentially significant fines and/or imprisonment (depending on the specific offence under the Act). Disciplinary action by the employer, including dismissal. Civil lawsuits for damages caused. Severe damage to personal and professional reputation.

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:

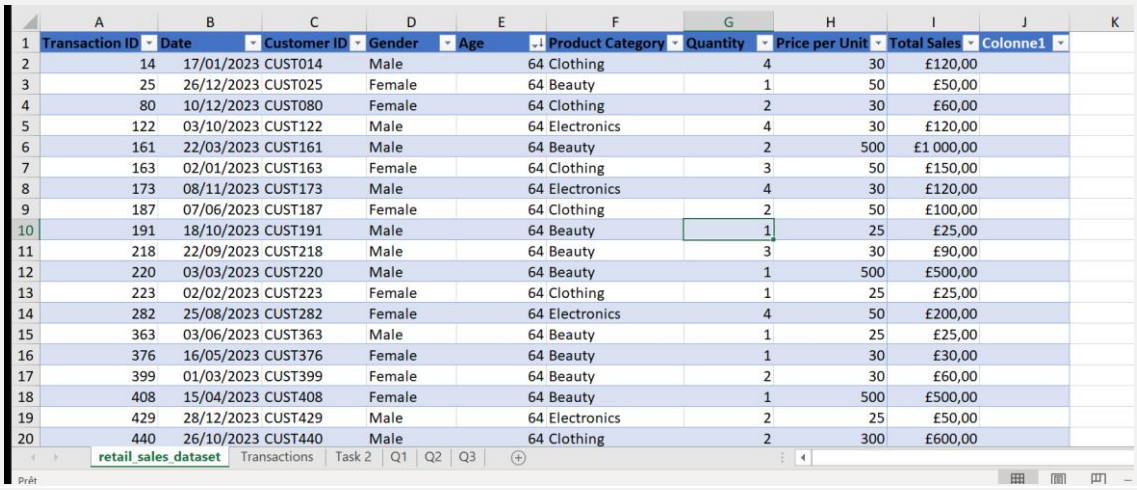
1. In the sheet 'retail_sales_dataset' add all available data between columns A –J into a 'table'
2. Using the 'filter' function, filter 'Age' to 'largest to smallest'
3. Using the 'SUM' function, show me the commission total in cell 'L10'
4. Using the 'AVERAGE' function, show me the average commission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

Print screen 1



Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Sales	Colonne1
1	24/11/2023	CUST001	Male	34	Beauty	3	50	£150,00	
2	27/02/2023	CUST002	Female	26	Clothing	2	500	£1 000,00	
3	13/01/2023	CUST003	Male	50	Electronics	1	30	£30,00	
4	21/05/2023	CUST004	Male	37	Clothing	1	500	£500,00	
5	06/05/2023	CUST005	Male	30	Beauty	2	50	£100,00	
6	25/04/2023	CUST006	Female	45	Beauty	1	30	£30,00	
7	13/03/2023	CUST007	Male	46	Clothing	2	25	£50,00	
8	22/02/2023	CUST008	Male	30	Electronics	4	25	£100,00	
9	13/12/2023	CUST009	Male	63	Electronics	2	300	£600,00	
10	07/10/2023	CUST010	Female	52	Clothing	4	50	£200,00	
11	14/02/2023	CUST011	Male	23	Clothing	2	50	£100,00	
12	30/10/2023	CUST012	Male	35	Beauty	3	25	£75,00	
13	05/08/2023	CUST013	Male	22	Electronics	3	500	£1 500,00	
14	17/01/2023	CUST014	Male	64	Clothing	4	30	£120,00	
15	16/01/2023	CUST015	Female	42	Electronics	4	500	£2 000,00	
16	17/02/2023	CUST016	Male	19	Clothing	3	500	£1 500,00	
17	22/04/2023	CUST017	Female	27	Clothing	4	25	£100,00	
18	30/04/2023	CUST018	Female	47	Electronics	2	25	£50,00	
19	16/09/2023	CUST019	Female	62	Clothing	2	25	£50,00	

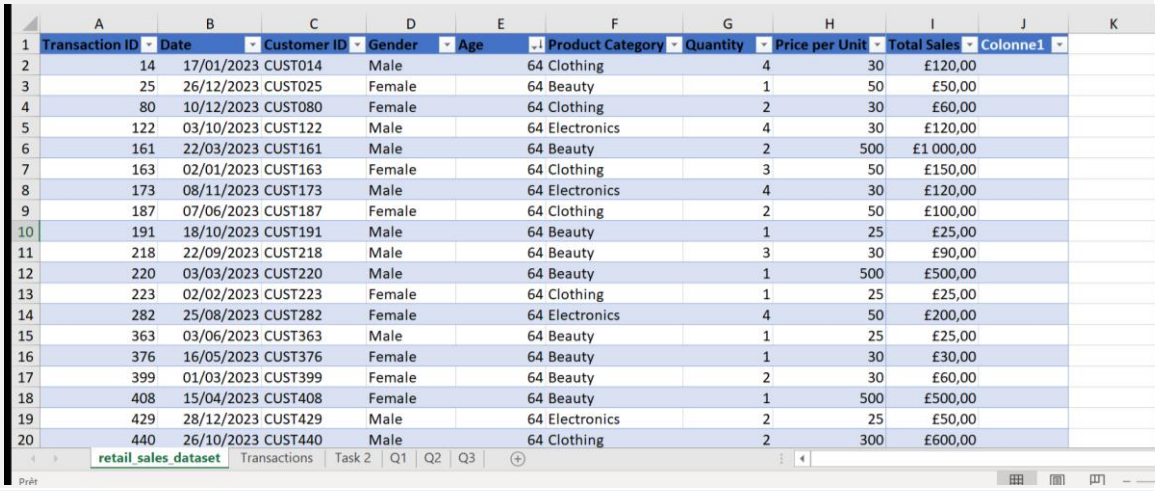
Print screen 2



	A	B	C	D	E	F	G	H	I	J	K
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Sales	Colonne1	
2	14	17/01/2023	CUST014	Male	64	Clothing	4	30	£120,00		
3	25	26/12/2023	CUST025	Female	64	Beauty	1	50	£50,00		
4	80	10/12/2023	CUST080	Female	64	Clothing	2	30	£60,00		
5	122	03/10/2023	CUST122	Male	64	Electronics	4	30	£120,00		
6	161	22/03/2023	CUST161	Male	64	Beauty	2	500	£1 000,00		
7	163	02/01/2023	CUST163	Female	64	Clothing	3	50	£150,00		
8	173	08/11/2023	CUST173	Male	64	Electronics	4	30	£120,00		
9	187	07/06/2023	CUST187	Female	64	Clothing	2	50	£100,00		
10	191	18/10/2023	CUST191	Male	64	Beauty	1	25	£25,00		
11	218	22/09/2023	CUST218	Male	64	Beauty	3	30	£90,00		
12	220	03/03/2023	CUST220	Male	64	Beauty	1	500	£500,00		
13	223	02/02/2023	CUST223	Female	64	Clothing	1	25	£25,00		
14	282	25/08/2023	CUST282	Female	64	Electronics	4	50	£200,00		
15	363	03/06/2023	CUST363	Male	64	Beauty	1	25	£25,00		
16	376	16/05/2023	CUST376	Female	64	Beauty	1	30	£30,00		
17	399	01/03/2023	CUST399	Female	64	Beauty	2	30	£60,00		
18	408	15/04/2023	CUST408	Female	64	Beauty	1	500	£500,00		
19	429	28/12/2023	CUST429	Male	64	Electronics	2	25	£50,00		
20	440	26/10/2023	CUST440	Male	64	Clothing	2	300	£600,00		

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

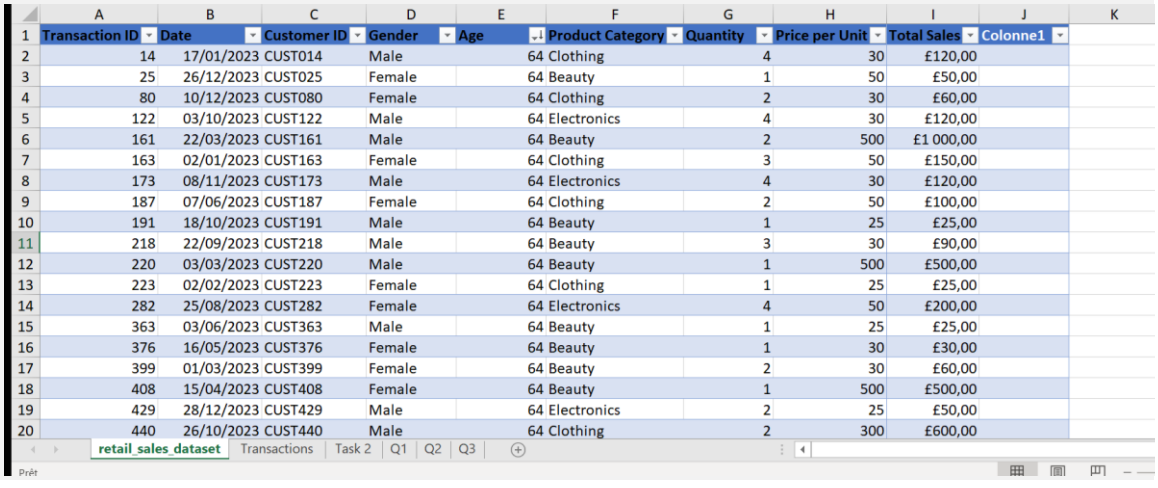
Print screen 3



	A	B	C	D	E	F	G	H	I	J	K
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Sales	Colonne1	
2	14	17/01/2023	CUST014	Male	64	Clothing	4	30	£120,00		
3	25	26/12/2023	CUST025	Female	64	Beauty	1	50	£50,00		
4	80	10/12/2023	CUST080	Female	64	Clothing	2	30	£60,00		
5	122	03/10/2023	CUST122	Male	64	Electronics	4	30	£120,00		
6	161	22/03/2023	CUST161	Male	64	Beauty	2	500	£1 000,00		
7	163	02/01/2023	CUST163	Female	64	Clothing	3	50	£150,00		
8	173	08/11/2023	CUST173	Male	64	Electronics	4	30	£120,00		
9	187	07/06/2023	CUST187	Female	64	Clothing	2	50	£100,00		
10	191	18/10/2023	CUST191	Male	64	Beauty	1	25	£25,00		
11	218	22/09/2023	CUST218	Male	64	Beauty	3	30	£90,00		
12	220	03/03/2023	CUST220	Male	64	Beauty	1	500	£500,00		
13	223	02/02/2023	CUST223	Female	64	Clothing	1	25	£25,00		
14	282	25/08/2023	CUST282	Female	64	Electronics	4	50	£200,00		
15	363	03/06/2023	CUST363	Male	64	Beauty	1	25	£25,00		
16	376	16/05/2023	CUST376	Female	64	Beauty	1	30	£30,00		
17	399	01/03/2023	CUST399	Female	64	Beauty	2	30	£60,00		
18	408	15/04/2023	CUST408	Female	64	Beauty	1	500	£500,00		
19	429	28/12/2023	CUST429	Male	64	Electronics	2	25	£50,00		
20	440	26/10/2023	CUST440	Male	64	Clothing	2	300	£600,00		

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Print screen 4



	A	B	C	D	E	F	G	H	I	J	K
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Sales	Colonne1	
2	14	17/01/2023	CUST014	Male	64	Clothing	4	30	£120,00		
3	25	26/12/2023	CUST025	Female	64	Beauty	1	50	£50,00		
4	80	10/12/2023	CUST080	Female	64	Clothing	2	30	£60,00		
5	122	03/10/2023	CUST122	Male	64	Electronics	4	30	£120,00		
6	161	22/03/2023	CUST161	Male	64	Beauty	2	500	£1 000,00		
7	163	02/01/2023	CUST163	Female	64	Clothing	3	50	£150,00		
8	173	08/11/2023	CUST173	Male	64	Electronics	4	30	£120,00		
9	187	07/06/2023	CUST187	Female	64	Clothing	2	50	£100,00		
10	191	18/10/2023	CUST191	Male	64	Beauty	1	25	£25,00		
11	218	22/09/2023	CUST218	Male	64	Beauty	3	30	£90,00		
12	220	03/03/2023	CUST220	Male	64	Beauty	1	500	£500,00		
13	223	02/02/2023	CUST223	Female	64	Clothing	1	25	£25,00		
14	282	25/08/2023	CUST282	Female	64	Electronics	4	50	£200,00		
15	363	03/06/2023	CUST363	Male	64	Beauty	1	25	£25,00		
16	376	16/05/2023	CUST376	Female	64	Beauty	1	30	£30,00		
17	399	01/03/2023	CUST399	Female	64	Beauty	2	30	£60,00		
18	408	15/04/2023	CUST408	Female	64	Beauty	1	500	£500,00		
19	429	28/12/2023	CUST429	Male	64	Electronics	2	25	£50,00		
20	440	26/10/2023	CUST440	Male	64	Clothing	2	300	£600,00		

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

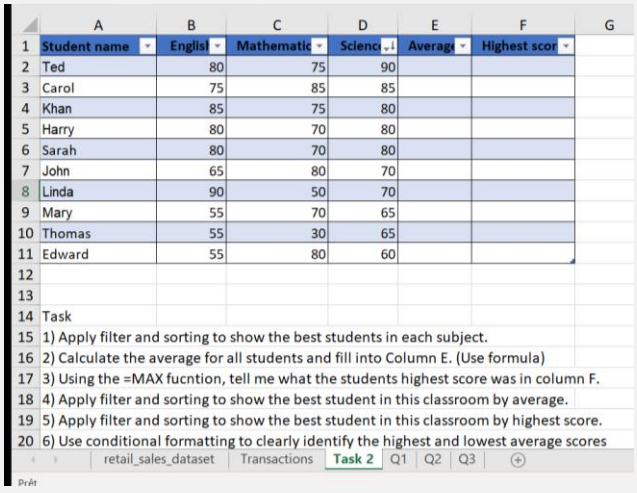
Day 2: Task 2

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 fucntion, 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

1 :



	A	B	C	D	E	F	G
1	Student name	English	Mathematic	Scienc	Average	Highest scor	
2	Carol	75	85	85			
3	John	65	80	70			
4	Edward	55	80	60			
5	Khan	85	75	80			
6	Ted	80	75	90			
7	Harry	80	70	80			
8	Sarah	80	70	80			
9	Mary	55	70	65			
10	Linda	90	50	70			
11	Thomas	55	30	65			
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

	A	B	C	D	E	F	G
1	Student name	English	Mathematic	Scienc	Average	Highest scor	
2	Linda	90	50	70			
3	Khan	85	75	80			
4	Ted	80	75	90			
5	Harry	80	70	80			
6	Sarah	80	70	80			
7	Carol	75	85	85			
8	John	65	80	70			
9	Edward	55	80	60			
10	Mary	55	70	65			
11	Thomas	55	30	65			
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

2:

	A	B	C	D	E	F	G
1	Student name	English	Mathematic	Scienc	Average	Highest scor	
2	Carol	75	85	85	81,67		
3	Edward	55	80	60	65,00		
4	Harry	80	70	80	76,67		
5	John	65	80	70	71,67		
6	Khan	85	75	80	80,00		
7	Linda	90	50	70	70,00		
8	Mary	55	70	65	63,33		
9	Sarah	80	70	80	76,67		
10	Ted	80	75	90	81,67		
11	Thomas	55	30	65	50,00		
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

3:

	A	B	C	D	E	F	G
1	Student name	Englis	Mathematic	Scienc	Averag	Highest scor	
2	Carol	75	85	85	81,67	85	
3	Edward	55	80	60	65,00	80	
4	Harry	80	70	80	76,67	80	
5	John	65	80	70	71,67	80	
6	Khan	85	75	80	80,00	85	
7	Linda	90	50	70	70,00	90	
8	Mary	55	70	65	63,33	70	
9	Sarah	80	70	80	76,67	80	
10	Ted	80	75	90	81,67	90	
11	Thomas	55	30	65	50,00	65	
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

4:

	A	B	C	D	E	F	G
1	Student name	Englis	Mathematic	Scienc	Averag	Highest scor	
2	Carol	75	85	85	81,67	85	
3	Ted	80	75	90	81,67	90	
4	Khan	85	75	80	80,00	85	
5	Harry	80	70	80	76,67	80	
6	Sarah	80	70	80	76,67	80	
7	John	65	80	70	71,67	80	
8	Linda	90	50	70	70,00	90	
9	Edward	55	80	60	65,00	80	
10	Mary	55	70	65	63,33	70	
11	Thomas	55	30	65	50,00	65	
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

5:

	A	B	C	D	E	F	G
1	Student name	Englis	Mathematic	Scienc	Averag	Highest scor	
2	Ted	80	75	90	81,67	90	
3	Linda	90	50	70	70,00	90	
4	Carol	75	85	85	81,67	85	
5	Khan	85	75	80	80,00	85	
6	Harry	80	70	80	76,67	80	
7	Sarah	80	70	80	76,67	80	
8	John	65	80	70	71,67	80	
9	Edward	55	80	60	65,00	80	
10	Mary	55	70	65	63,33	70	
11	Thomas	55	30	65	50,00	65	
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
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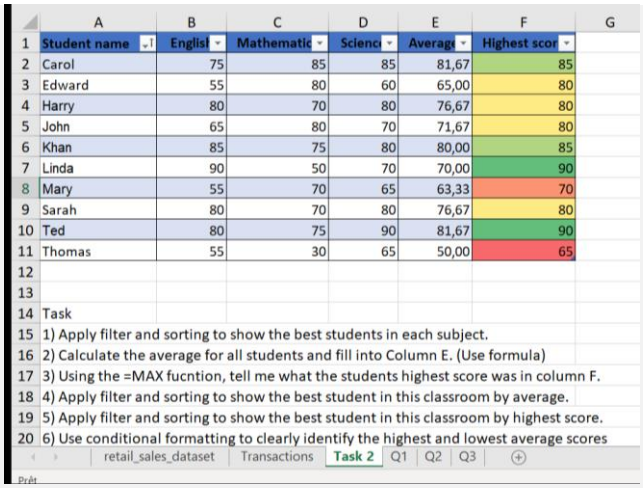
retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

6:



	A	B	C	D	E	F	G
1	Student name	Englis	Mathematic	Scienc	Averag	Highest scor	
2	Carol	75	85	85	81,67	85	
3	Edward	55	80	60	65,00	80	
4	Harry	80	70	80	76,67	80	
5	John	65	80	70	71,67	80	
6	Khan	85	75	80	80,00	85	
7	Linda	90	50	70	70,00	90	
8	Mary	55	70	65	63,33	70	
9	Sarah	80	70	80	76,67	80	
10	Ted	80	75	90	81,67	90	
11	Thomas	55	30	65	50,00	65	
12							
13							
14	Task						
15	1) Apply filter and sorting to show the best students in each subject.						
16	2) Calculate the average for all students and fill into Column E. (Use formula)						
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.						
18	4) Apply filter and sorting to show the best student in this classroom by average.						
19	5) Apply filter and sorting to show the best student in this classroom by highest score.						
20	6) Use conditional formatting to clearly identify the highest and lowest average scores						

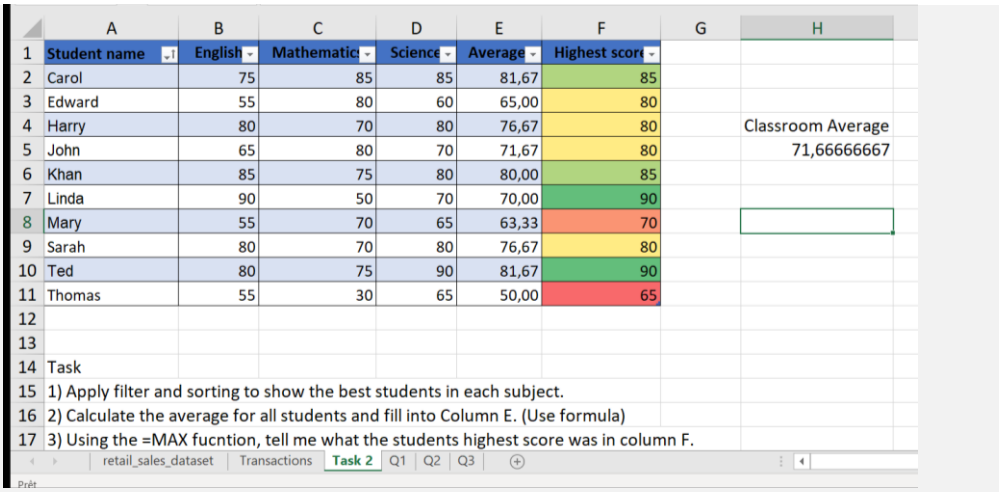
retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Prêt

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!

Print screen 1



	A	B	C	D	E	F	G	H
1	Student name	English	Mathematic	Science	Average	Highest scor		
2	Carol	75	85	85	81,67	85		
3	Edward	55	80	60	65,00	80		
4	Harry	80	70	80	76,67	80		Classroom Average
5	John	65	80	70	71,67	80		71,66666667
6	Khan	85	75	80	80,00	85		
7	Linda	90	50	70	70,00	90		
8	Mary	55	70	65	63,33	70		
9	Sarah	80	70	80	76,67	80		
10	Ted	80	75	90	81,67	90		
11	Thomas	55	30	65	50,00	65		
12								
13								
14	Task							
15	1) Apply filter and sorting to show the best students in each subject.							
16	2) Calculate the average for all students and fill into Column E. (Use formula)							
17	3) Using the =MAX fucntion, tell me what the students highest score was in column F.							

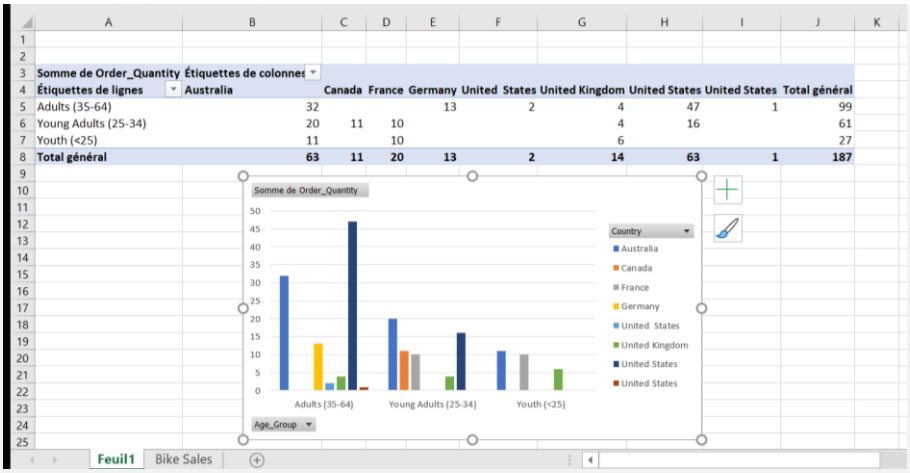
retail_sales_dataset | Transactions | Task 2 | Q1 | Q2 | Q3

Day 3: Task 1

Please download the dataset 'Day_3_Task_1_Bike_Sales_Pivot_Lab.xlsx' from here.

The lab instructions can be found here. 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	
In which markets does Germany have customers?	Adults (35-64)
What country has sales in all markets?	Australia and United Kingdom
What are the most profitable markets by country, age group, and gender?	Female Adult from United State
Any other findings?	United State and Australia have the same number of customers but United State a lot more income

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.

Dataset:

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

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

Print screen 1

Somme de Sales Volume	Étiquettes de colonnes			
Étiquettes de lignes	Laptops	Printers	Smartphones	Total général
Cornwall	700	400		1100
Durham	250	300		550
Essex		800	300	1100
Greater Manchester	400		600	1000
Lancashire	600		150	750
Yorkshire	500		200	700
Total général	**2450**	**1500**	**1250**	**5200**

County	Product	Sales Volume	products by sales
Yorkshire	Laptops	500	Medium
Yorkshire	Smartphones	200	Low
Cornwall	Laptops	700	High
Cornwall	Printers	400	Medium
Lancashire	Smartphones	150	Low
Lancashire	Laptops	600	High
Essex	Printers	800	High
Essex	Smartphones	300	Medium
Durham	Laptops	250	Low
Durham	Printers	300	Medium
Greater Manchester	Smartphones	600	High
Greater Manchester	Laptops	400	Medium

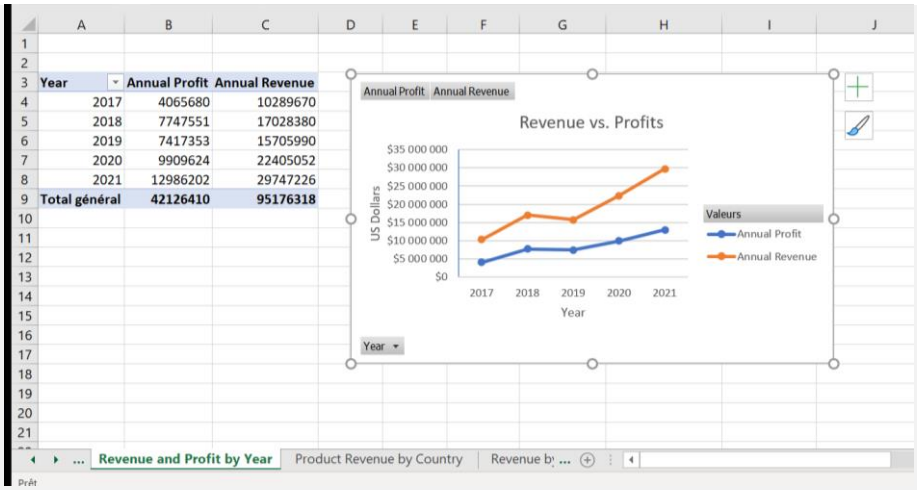
Day 3: Task 3

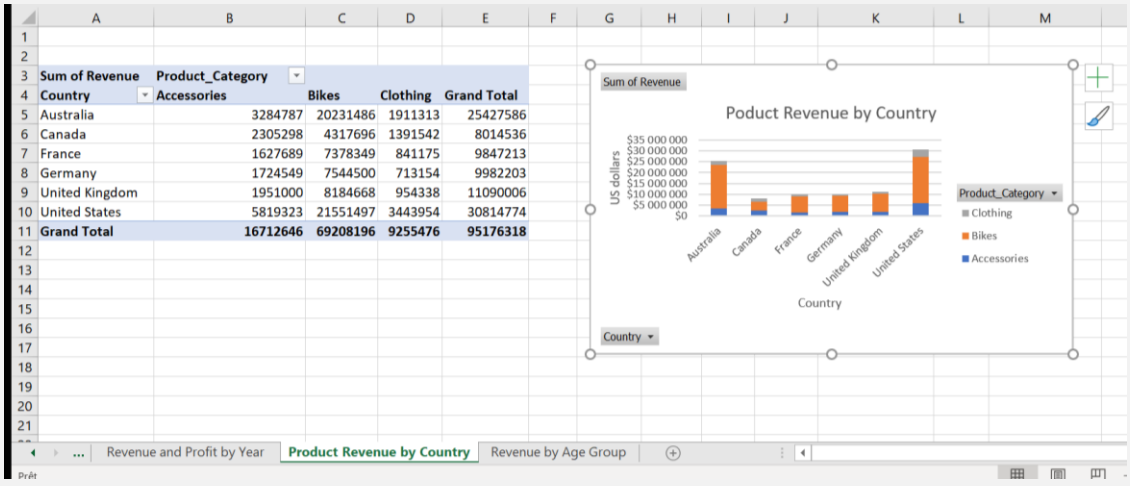
Please download the dataset 'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from here.

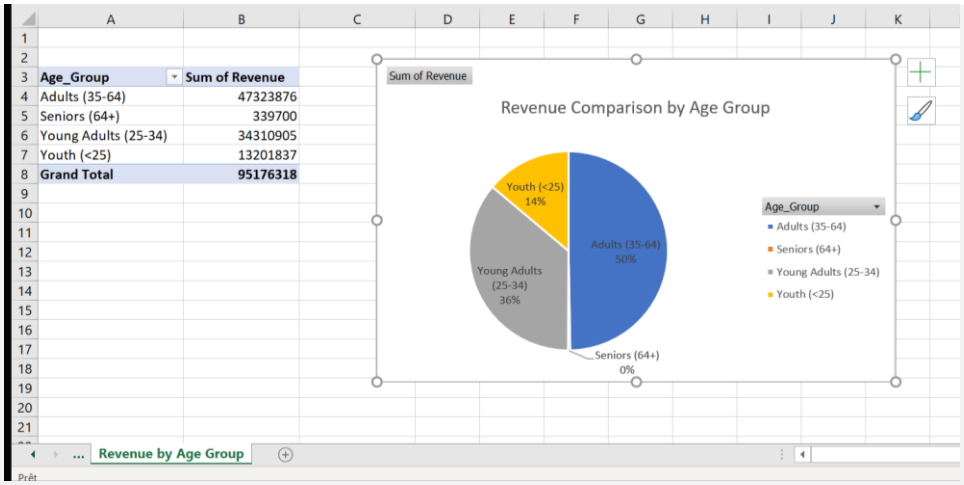
The lab instructions can be found here. Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below:

Print screen 1






A
B
C
D
E
F
G
H
I
J
K
Age_Group
Sum of Revenue
Adults (35-64) 47323876
Seniors (64+) 339700
Young Adults (25-34) 34310905
Youth (<25) 13201837
Grand Total 95176318
Sum of Revenue
Revenue Comparison by Age Group
Youth (<25) 14%
Adults (35-64) 50%
Young Adults (25-34) 36%
Seniors (64+) 0%
Age_Group
Adults (35-64)
Seniors (64+)
Young Adults (25-34)
Youth (<25)
Revenue by Age Group
Prêt

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:

How would you prepare for the delivery?	**Solidify the Analysis:** Double-check the data and methodology. Ensure the finding (churn spike at 12 months linked to renewal price) is statistically sound and clearly demonstrable. Explore any secondary contributing factors. **Quantify the Impact:** Calculate the financial implications – lost Annual Recurring Revenue (ARR), impact on Customer Lifetime Value (CLV), wasted Customer Acquisition Cost (CAC) for churned customers. Translate the churn percentage into concrete financial figures the board understands. **Define the Narrative:** Structure the presentation logically: Start with the key finding (the "what"), show the supporting evidence (the "proof"), explain the likely cause (the "why" - renewal pricing), quantify the business impact (the "so what"), and propose solutions (the "now what"). **Develop Clear Recommendations:** Brainstorm actionable solutions. Examples: revised renewal pricing strategy (e.g., smaller increase, loyalty discounts), improved value communication *before* renewal, proactive outreach by Customer Success Managers, exit surveys specifically targeting 12-month leavers to refine understanding. Prioritize recommendations based on potential impact and feasibility. **Know Your Audience (Prospecting - see below):** Understand the board members' priorities, backgrounds, and potential concerns. Anticipate their questions (e.g., "Is this industry standard?", "What's the cost of your proposed solutions?", "Have competitors faced this?").

	Create Compelling Visuals: Design clear, simple slides. Use charts (line charts showing churn over time, bar charts comparing 12-month churn to other periods) to visualize the key finding effectively. Avoid clutter. **Craft an Executive Summary:** Prepare a concise opening (maybe one slide) that states the problem, the key finding, and the main recommendation upfront. Senior leaders appreciate getting the core message quickly. **Rehearse:** Practice the delivery multiple times. Focus on clarity, conciseness, timing, and confidence. Practice transitions between points and handling potential questions.
What tools would you use for the delivery?	**Presentation Software:** Microsoft PowerPoint or Google Slides are standard. They allow for structured content, embedding charts, and a professional look. **Data Visualization Tools (for preparation & potentially embedding):** • **Excel/Google Sheets:** For initial data manipulation and creating basic charts to embed. • **BI Tools (Tableau, Power BI):** Excellent for the *analysis phase* to explore data and create compelling visuals. You might embed static images exported from these tools into your slides for clarity and impact. Avoid live, complex dashboards during the presentation unless specifically requested or managed carefully, as they can distract. **Delivery Hardware/Software:** • Laptop • Projector/Large Screen (for in-person) • Video Conferencing Platform (Zoom, Teams, Meet - for virtual delivery), ensuring familiarity with screen sharing. • Presentation Remote/Clicker (for smoother transitions in person).

What is prospecting and why would you complete this before your delivery?	**What it is:** In a sales context, prospecting is identifying potential customers. In the context of presenting to the board, **prospecting means researching and understanding your audience (the board members)**. It involves learning about their roles, backgrounds, expertise, known interests, strategic priorities, and potential biases or viewpoints related to your topic. **Why complete it before delivery:** • **Tailor Your Message:** Knowing their priorities (e.g., finance, operations, marketing, strategy) allows you to frame your findings and recommendations in terms most relevant and impactful to them. • **Anticipate Questions & Concerns:** Understanding their perspectives helps you prepare responses to likely questions or objections. For example, the CFO will focus on financial impact, while the CMO might focus on brand perception and market share. • **Build Credibility:** Demonstrating awareness of their context shows you've done your homework and respect their position. • **Increase Persuasiveness:** You can align your recommendations with known strategic goals or address specific concerns they might have previously raised. • **Adjust Communication Style:** You can tailor the level of technical detail and language to resonate best with the collective group and key individuals.
Tell me best practices for public speaking and providing updates to senior leaders	**Bottom Line Up Front (BLUF):** Start with the main conclusion or recommendation. Senior leaders are time-poor and appreciate knowing the key takeaway immediately. **Be Prepared & Confident:** Know your material thoroughly. Practice ensures a smoother, more confident delivery.

Clarity & Conciseness: Use clear, simple language. Avoid jargon. Get straight to the point and avoid rambling. Every minute counts.

Focus on "So What?": Don't just present data; explain *what it means* for the business and *why they should care*. Focus on insights and implications.

Know Your Numbers: Be ready to answer questions about your data, methodology, and the financial impact.

Structured Narrative: Follow a logical flow (Problem, Evidence, Impact, Solution). Use signposting ("My first point is...", "Now, let's look at the recommendations...").

Visual Aids: Use simple, uncluttered visuals that support your key messages, not distract from them. Less is often more on slides for senior audiences.

Engage and Connect: Maintain eye contact (with the camera if virtual, or around the room if in person). Speak clearly and audibly. Use appropriate body language.

Anticipate Questions: Prepare for likely questions and have thoughtful answers ready.

Listen Actively & Respond Directly: When questions are asked, listen carefully. Answer the question asked concisely. If you don't know the answer, say so and offer to follow up promptly.

Be Solution-Oriented: Focus on the path forward and the positive outcomes of your recommendations.

Respect Their Time: Start and end on schedule.

What will you show the board in your delivery?	**Executive Summary:** A slide with the core problem (12-month churn), key finding (linked to renewal price), and primary recommendation. **The Problem Defined:** Clear statement of the issue – abnormal customer churn at the 12-month mark. **Data Evidence:** • A clear chart (e.g., line chart) showing the customer churn rate over the customer lifecycle, highlighting the distinct spike at 12 months. • A chart comparing the 12-month churn rate to churn rates at other key intervals (e.g., 3, 6, 24 months). • Data correlating the timing of churn with renewal notice delivery or effective price increase date. **Business Impact:** • Quantified financial loss: Lost ARR, potential impact on total CLV projections. • Number/percentage of customers lost specifically at this point. • Brief mention of potential non-financial impacts (e.g., negative reviews, brand perception). **Root Cause Analysis:** Briefly explain why the analysis points to renewal pricing as the primary driver (while acknowledging other factors if necessary). **Proposed Recommendations:** Clear, concise list of suggested actions (e.g., revised pricing, improved communication strategy). **Next Steps:** Outline the immediate actions required, who is responsible, and a timeline for implementation and monitoring.

How will you articulate the changes that are needed?	**Link Directly to the Problem:** Start by reminding them of the churn issue and its financial impact. "Our analysis clearly shows the 12-month renewal price is driving significant churn, costing us approximately [£X] in ARR annually." **State Recommendations Clearly:** "Based on this, we recommend the following changes..." Use action verbs. **Explain the 'Why' for Each Change:** "Implementing a tiered loyalty discount aims to reward tenure and reduce the price shock, which we project could decrease this specific churn by X%." / "Improving pre-renewal communication will reinforce the value proposition, addressing feedback that customers don't feel the price increase is justified." **Focus on Benefits & ROI:** Frame the changes in terms of positive outcomes – reduced churn, increased retention, protected revenue, improved CLV. **Be Realistic:** Acknowledge any costs, resources, or effort required for implementation but contrast it with the cost of inaction (continued high churn). **Call to Action:** Clearly state what you need from the board (e.g., approval for the new pricing strategy, resources for the communication plan). "We request the board's approval to proceed with piloting the loyalty discount structure in Q3."
Provide a list of online resources and videos that will support your preparation for public speaking	**TED Talks:** • Search "Public Speaking" or "Presentation Skills" on TED.com. • Watch talks *by* excellent speakers to observe technique (e.g., Sir Ken Robinson, Brené Brown, Adam Grant). • Chris Anderson (Head of TED): "TED's Secret to Great Public Speaking"

	• Julian Treasure: "How to speak so that people want to listen" **YouTube Channels:** • **Toastmasters International:** Tips and examples from the leading public speaking organization. • **Duarte, Inc.:** Nancy Duarte is a leading expert on presentations; her channel offers great advice. • **Communication Coach Alex Lyon:** Practical tips on delivery, confidence, and structure. • **Harvard Business Review (HBR):** Often posts videos with communication tips. **Online Learning Platforms:** • **LinkedIn Learning:** Courses on "Presentation Skills," "Public Speaking," "Communicating with Executives." • **Coursera / edX:** University-level courses on communication and public speaking.
Evaluate tools that provide visualisation. **Tell me what they are.** **Tell me what you would choose when delivering your presentation and why**	**What they are:** 1. **Spreadsheet Software (Excel, Google Sheets):** Basic, widely available tools for creating standard charts like bar, line, pie. Good for simple data representation. 2. **Presentation Software (PowerPoint, Google Slides, Keynote):** Include built-in charting tools similar to spreadsheets, plus SmartArt for diagrams. Designed for integrating visuals directly into the presentation flow. 3. **Business Intelligence Platforms (Tableau, Power BI, Qlik Sense, Looker):** Powerful tools designed for deep data exploration, creating interactive dashboards, and handling large datasets. Offer a wider range of complex and visually appealing chart types.

4. **Programming Libraries (Python: Matplotlib, Seaborn, Plotly; R: ggplot2):** Offer maximum flexibility and customization for data scientists/analysts to create bespoke visuals through code.
5. **Specialized Online Charting/Infographic Tools (Canva, Piktochart, Flourish):** Often template-driven, good for creating stylish, specific visuals or infographics, sometimes with unique chart types or animation.

What you would choose for this presentation and why:

- **Choice:** Primarily use the **built-in charting tools within PowerPoint or Google Slides**, potentially supplemented by **static image exports from a BI tool (like Tableau or Power BI)** used during the analysis phase.
- **Why:**
    - **Clarity and Simplicity:** Board presentations require extremely clear, easy-to-grasp visuals. Standard charts (line, bar) effectively show trends and comparisons, which is key here. These are easily created in PowerPoint/Slides.
    - **Audience Familiarity:** Board members are familiar with standard chart types found in presentation software. Overly complex or novel visualizations can sometimes distract or require explanation.
    - **Seamless Integration:** Using the presentation software's tools keeps the visuals integrated within the slide flow, avoiding awkward app switching.
    - **Focus:** The goal is to communicate the finding and recommendation, not showcase complex visualization skills or enable live data

exploration (which BI tools excel at, but can derail a focused board update).

- **Leverage BI for Prep:** Use the power of Tableau/Power BI during the *analysis* to find the key insights and identify the most impactful way to visualize them. Then, recreate the essential charts simply in PowerPoint/Slides or export a clean, static image of a crucial chart from the BI tool if it offers superior clarity for that specific point.

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.