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	The Data Protection Act (1998 and significantly updated in 2018) is a law that governs how personal information is handled and safeguarded. It ensures individuals have control over their data and that organizations use it responsibly and It's crucial for protecting privacy and building trust between individuals and organizations. A real-world example of following this act is when a website asks for your consent before collecting your email address. This ensures you're aware of how your data will be used. The act impacts data work by requiring organizations to implement strong security measures, regularly review their data practices, and be transparent about how they use data. Failure to comply can lead to fines and reputational damage.
GDPR	GDPR (2016) is a European regulation that sets a high standard for protecting personal data. It applies to any organization that processes the personal data of individuals in the EU, regardless of the company's location. A real-world example is when a company based outside the EU asks for your consent to use your data for marketing purposes. GDPR requires them to obtain explicit consent and provide clear information about how your data will be used. GDPR impacts data work by requiring organizations to implement strong data protection practices, appoint a Data Protection Officer, and ensure data subjects have control over their data. Non-compliance can lead to fines and legal action.

Freedom of Information Act	The Freedom of Information Act (2005) allows individuals to request access to information held by public authorities. It promotes transparency and accountability by giving individuals the right to know how public authorities operate. A real-world example is requesting information and CCTV recordings from a public authority. The authority is legally obliged to provide the requested information, promoting transparency in its operations. The act impacts data work by requiring public authorities to have clear procedures for handling information requests and to proactively publish certain information. Failure to comply can lead to legal action and reputational damage.
Computer Misuse Act	The Data Misuse Act (1990) specifically targets the unauthorized use of data, particularly when it harms individuals or organizations. It's designed to prevent misuse of personal information for malicious purposes. A real-world example is when someone steals your credit card details and uses them for fraudulent purchases. This act provides a legal-stand for victims to fall back to when such data misuse occurs. It impacts data work by requiring organizations to implement strong security measures and carefully monitor data access. Breaches can lead to legal penalties and fines

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, 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

	A	B	C	D	E	F	G	H
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit
2	1	24/11/2023	CUST001	Male	34	Beauty	3	50
3	2	27/02/2023	CUST002	Female	26	Clothing	2	500
4	3	13/01/2023	CUST003	Male	50	Electronics	1	30
5	4	21/05/2023	CUST004	Male	37	Clothing	1	500
6	5	06/05/2023	CUST005	Male	30	Beauty	2	50
7	6	25/04/2023	CUST006	Female	45	Beauty	1	30
8	7	13/03/2023	CUST007	Male	46	Clothing	2	25
9	8	22/02/2023	CUST008	Male	30	Electronics	4	25
10	9	13/12/2023	CUST009	Male	63	Electronics	2	300
11	10	07/10/2023	CUST010	Female	52	Clothing	4	50
12	11	14/02/2023	CUST011	Male	23	Clothing	2	50
13	12	30/10/2023	CUST012	Male	35	Beauty	3	25
14	13	05/08/2023	CUST013	Male	22	Electronics	3	500
15	14	17/01/2023	CUST014	Male	64	Clothing	4	30
16	15	16/01/2023	CUST015	Female	42	Electronics	4	500
17	16	17/02/2023	CUST016	Male	19	Clothing	3	500
18	17	22/04/2023	CUST017	Female	27	Clothing	4	25
19	18	30/04/2023	CUST018	Female	47	Electronics	2	25
20	19	16/09/2023	CUST019	Female	62	Clothing	2	25
21	20	05/11/2023	CUST020	Male	22	Clothing	3	300
22	21	14/01/2023	CUST021	Female	50	Beauty	1	500
23	22	15/10/2023	CUST022	Male	18	Clothing	2	50
24	23	12/04/2023	CUST023	Female	35	Clothing	4	30
25	24	29/11/2023	CUST024	Female	49	Clothing	1	300
26	25	26/12/2023	CUST025	Female	64	Beauty	1	50

Print screen 2

Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit
14	17/01/2023	CUST014	Male	64	Clothing	4	30
25	26/12/2023	CUST025	Female	64	Beauty	1	50
80	10/12/2023	CUST080	Female	64	Clothing	2	30
122	03/10/2023	CUST122	Male	64	Electronics	4	30
161	22/03/2023	CUST161	Male	64	Beauty	2	500
163	02/01/2023	CUST163	Female	64	Clothing	3	50
173	08/11/2023	CUST173	Male	64	Electronics	4	30
187	07/06/2023	CUST187	Female	64	Clothing	2	50
191	18/10/2023	CUST191	Male	64	Beauty	1	25
218	22/09/2023	CUST218	Male	64	Beauty	3	30
220	03/03/2023	CUST220	Male	64	Beauty	1	500
223	02/02/2023	CUST223	Female	64	Clothing	1	25
282	25/08/2023	CUST282	Female	64	Electronics	4	50
363	03/06/2023	CUST363	Male	64	Beauty	1	25
376	16/05/2023	CUST376	Female	64	Beauty	1	30
399	01/03/2023	CUST399	Female	64	Beauty	2	30
408	15/04/2023	CUST408	Female	64	Beauty	1	500
429	28/12/2023	CUST429	Male	64	Electronics	2	25
440	26/10/2023	CUST440	Male	64	Clothing	2	300
473	25/02/2023	CUST473	Male	64	Beauty	1	50
532	19/06/2023	CUST532	Female	64	Clothing	4	30
561	27/05/2023	CUST561	Female	64	Clothing	4	500
566	02/12/2023	CUST566	Female	64	Clothing	1	30
596	07/02/2023	CUST596	Female	64	Electronics	1	300
692	07/09/2023	CUST692	Female	64	Clothing	2	50
698	19/07/2023	CUST698	Female	64	Electronics	1	300
735	04/10/2023	CUST735	Female	64	Clothing	4	500
758	12/05/2023	CUST758	Male	64	Clothing	4	25
830	22/06/2023	CUST830	Female	64	Clothing	3	50
882	06/06/2023	CUST882	Female	64	Electronics	2	25
897	26/09/2023	CUST897	Female	64	Electronics	2	50
9	13/12/2023	CUST009	Male	63	Electronics	2	300

Print screen 3

Total Commision 2023	£	6,840

Print screen 4

Average Commision 2023	£	6.84

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

A	B	A	B	C
Student name	Englis	Student name	Englis	Mathem
Carol	90	Carol	75	85
Ted	85	Ted	65	80
Khan	80	Khan	55	80
Harry	80	Harry	85	75
Sarah	80	Sarah	80	75
John	75	John	80	70
Linda	65	Linda	80	70
Edward	55	Edward	55	70
Mary	55	Mary	90	50
Thomas	55	Thomas	55	30

A	B	C	D
Student name	Englis	Mathem	Scienc
Carol	80	75	90
Ted	75	85	85
Khan	85	75	80
Harry	80	70	80
Sarah	80	70	80
John	65	80	70
Linda	90	50	70
Edward	55	70	65
Mary	55	30	65
Thomas	55	80	60

A	B	C	D	E	F
tudent name	Englis	Mathem	Scienc	Average	Highest score
arol	80	75	90	81.67	=MAX(B2:D2)
ed	75	85	85	81.67	85

A	B	C	D	E
Student name	English	Mathematic	Science	Averag
Carol	80	75	90	81.67
Ted	75	85	85	81.67
Khan	85	75	80	80.00
Harry	80	70	80	76.67
Sarah	80	70	80	76.67
John	65	80	70	71.67
Linda	90	50	70	70.00
Thomas	55	80	60	65.00
Edward	55	70	65	63.33
Mary	55	30	65	50.00

A	B	C	D	E	F
Student name	English	Mathematic	Science	Average	Highest sc
Carol	80	75	90	81.67	90
Linda	90	50	70	70.00	90
Ted	75	85	85	81.67	85
Khan	85	75	80	80.00	85
Harry	80	70	80	76.67	80
Sarah	80	70	80	76.67	80
John	65	80	70	71.67	80
Thomas	55	80	60	65.00	80
Edward	55	70	65	63.33	70
Mary	55	30	65	50.00	65

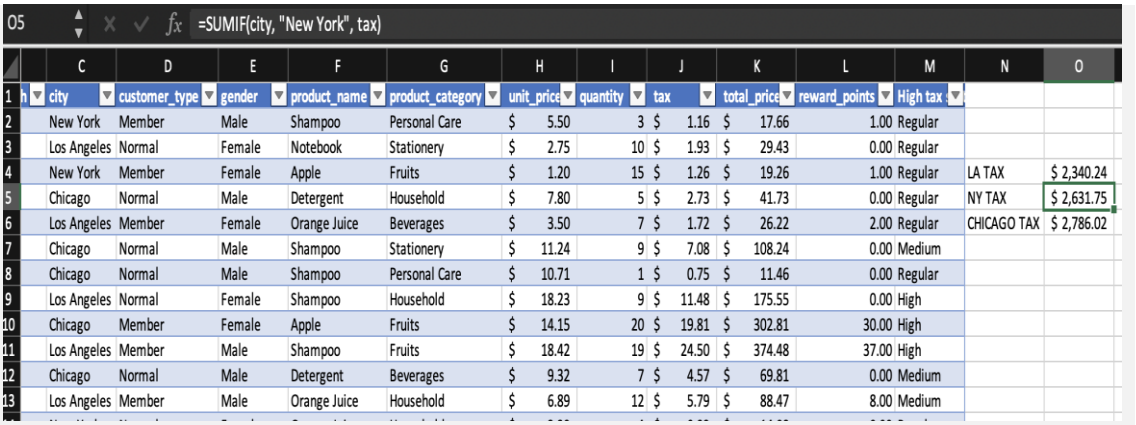
A	B	C	D	E	F
Student name	English	Mathematic	Science	Average	Highest sc
Carol	80	75	90	81.67	90
Linda	90	50	70	70.00	90
Ted	75	85	85	81.67	85
Khan	85	75	80	80.00	85
Harry	80	70	80	76.67	80
Sarah	80	70	80	76.67	80
John	65	80	70	71.67	80
Thomas	55	80	60	65.00	80
Edward	55	70	65	63.33	70
Mary	55	30	65	50.00	65

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!

I downloaded a sales and revenue dataset for Kaggle, formatted the cells and created a table. Then I created a column to show the tax brackets level. Finally, I summed the taxes from all 3 states, showing that San Fransisco pays the highest taxes overall.

Print screen 1



O5 =SUMIF(city, "New York", tax)

	C	D	E	F	G	H	I	J	K	L	M	N	O
1	city	customer_type	gender	product_name	product_category	unit_price	quantity	tax	total_price	reward_points	High tax		
2	New York	Member	Male	Shampoo	Personal Care	$ 5.50	3	$ 1.16	$ 17.66	1.00	Regular		
3	Los Angeles	Normal	Female	Notebook	Stationery	$ 2.75	10	$ 1.93	$ 29.43	0.00	Regular		
4	New York	Member	Female	Apple	Fruits	$ 1.20	15	$ 1.26	$ 19.26	1.00	Regular	LA TAX	$ 2,340.24
5	Chicago	Normal	Male	Detergent	Household	$ 7.80	5	$ 2.73	$ 41.73	0.00	Regular	NY TAX	$ 2,631.75
6	Los Angeles	Member	Female	Orange Juice	Beverages	$ 3.50	7	$ 1.72	$ 26.22	2.00	Regular	CHICAGO TAX	$ 2,786.02
7	Chicago	Normal	Male	Shampoo	Stationery	$ 11.24	9	$ 7.08	$ 108.24	0.00	Medium		
8	Chicago	Normal	Male	Shampoo	Personal Care	$ 10.71	1	$ 0.75	$ 11.46	0.00	Regular		
9	Los Angeles	Normal	Female	Shampoo	Household	$ 18.23	9	$ 11.48	$ 175.55	0.00	High		
10	Chicago	Member	Female	Apple	Fruits	$ 14.15	20	$ 19.81	$ 302.81	30.00	High		
11	Los Angeles	Member	Male	Shampoo	Fruits	$ 18.42	19	$ 24.50	$ 374.48	37.00	High		
12	Chicago	Normal	Male	Detergent	Beverages	$ 9.32	7	$ 4.57	$ 69.81	0.00	Medium		
13	Los Angeles	Member	Male	Orange Juice	Household	$ 6.89	12	$ 5.79	$ 88.47	8.00	Medium		

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

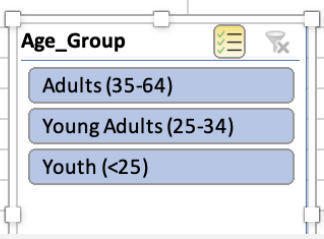
Row Labels	Sum of Order_Quantity	Count of Sales_Order #
Adults (35-64)	**99**	**47**
Australia	32	14
Germany	13	6
United States	2	1
United Kingdom	4	4
United States	47	21
United States	1	1
Young Adults (25-34)	**61**	**31**
Australia	20	9
Canada	11	6
France	10	5
United Kingdom	4	2
United States	16	9
Youth (<25)	**27**	**10**
Australia	11	4
France	10	3
United Kingdom	6	3
Grand Total	**187**	**88**

In which markets does Germany have customers?

Row Labels	Sum of Order_Quantity	Count of Sales_Order #
Adults (35-64)	**13**	**6**
Germany	13	6
Grand Total	**13**	**6**

What country has sales in all markets?

Row Labels	Sum of Order_Quantity	Count of Sales_Order #
Adults (35-64)	**36**	**18**
Australia	32	14
United Kingdom	4	4
Young Adults (25-34)	**24**	**11**
Australia	20	9
United Kingdom	4	2
Youth (<25)	**17**	**7**
Australia	11	4
United Kingdom	6	3
Grand Total	**77**	**36**



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

Row Labels	Sum of Profit
United States	£ 57,241
Australia	£ 50,326
France	£ 20,981
Germany	£ 13,636
Canada	£ 9,123
United Kingdom	£ 9,072
United States	£ 2,086
United States	£ 1,043
Grand Total	**£ 163,508**

Row Labels	Sum of Profit
Adults (35-64)	£ 93,496
Young Adults (25-34)	£ 53,962
Youth (<25)	£ 16,050
Grand Total	**£ 163,508**

Row Labels	Sum of Order_Quantity	Sum of Profit
F	108	£ 97,543
M	79	£ 65,965
Grand Total	**187**	**£ 163,508**

Any other findings?

Row Labels	Sum of Revenue
Victoria	**£ 25,499**
Australia	£ 25,499
New South Wales	**£ 24,338**
Australia	£ 24,338
Queensland	**£ 20,780**
Australia	£ 20,780
Grand Total	**£ 70,617**

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

Row Labels	Sum of Sales Volume
Cornwall	**1100**
Laptops	700
Printers	400
Durham	**550**
Laptops	250
Printers	300
Essex	**1100**
Printers	800
Smartphones	300
Greater Manchester	**1000**
Laptops	400
Smartphones	600
Lancashire	**750**
Laptops	600
Smartphones	150
Yorkshire	**700**
Laptops	500
Smartphones	200
Grand Total	**5200**

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

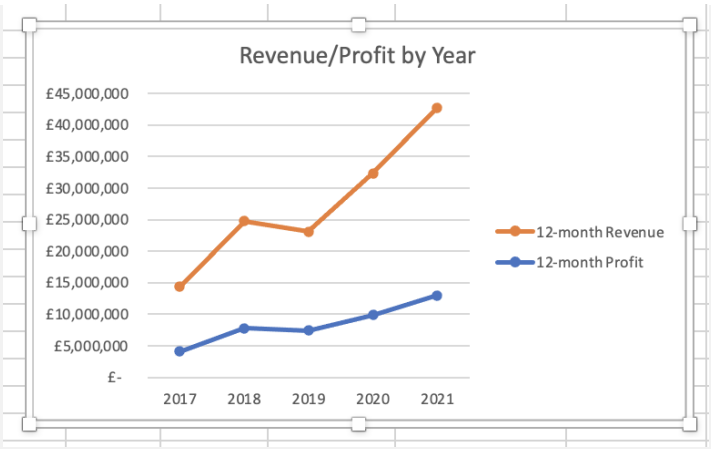
Day 3: Task 3

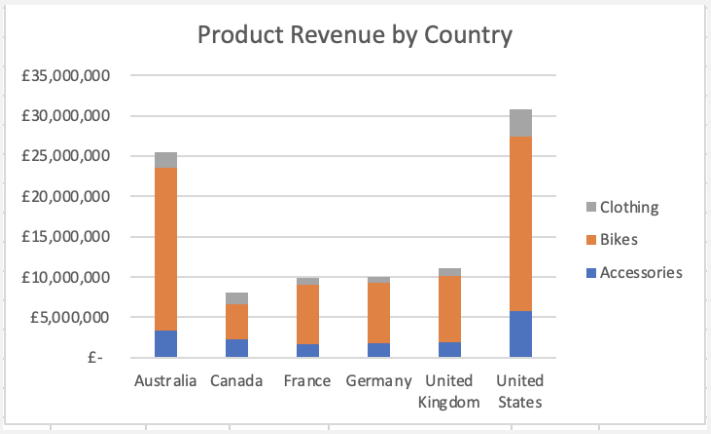
Please download the dataset 'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from here.

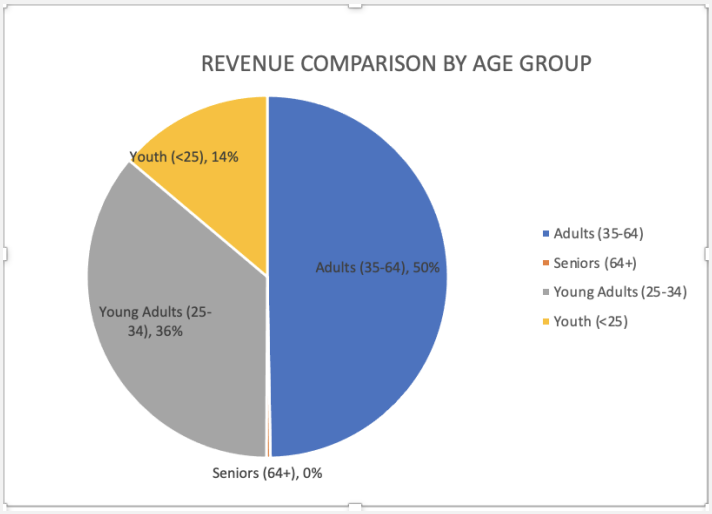
The lab instructions can be found here. Do not worry if you do not complete the lab, just working with data and playing with the charts will be a good experience.

Please paste your results below:

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:

How would you prepare for the delivery?	Firstly, I need to know my audience. I will familiarize myself with the board members and tailor my presentation to their needs. Secondly, I will need to include a clear summary of the findings, highlighting the peak employee-turnover rate at the 12-month mark correlating it to the renewal pricing. Then, I will need to structure my presentation by including an introduction, a clear and concise showcase of the findings, an analysis of the potential reasons behind the problem, and recommendations to eliminate it. I must include visuals like charts and graphs to help visualise the trends and data points clearly. Finally, I will practice my presentation multiple times and anticipate potential questions. I will be ready to answer said questions to the best of my abilities and offer to discuss further after the presentation.
What tools would you use for the delivery?	I will need to use: 1) Excel (manipulate the data and create my visualisations and dashboard) 2) PowerPoint (Structure the work from Excel into a presentation with a beginning, a middle, and am ending.)
What is prospecting and why would you complete this before your delivery?	Prospecting refers to the process of identifying the issue I have been tasked with solving. I will need to request data from the company, send out surveys and questionnaires, and look into the company policies. By doing so, I will be able to build a strong dataset that will be used to create visual aids. All that will help me convey the problems to the stakeholders.
Tell me best practices for public speaking and providing	Not to rumble. Have a structured speech. Be engaging and make eye contact, one thought-one look.

updates to senior leaders	Practice my presentation. Know my content.
What will you show the board in your delivery?	1) A concise summary with the purpose, the key findings, and the proposed actions. 2) I will go in depth with my findings using graphs, charts and/or interactive dashboard. 3) Highlight the deeper problems caused due to the employee turnover. 4) Offer suggestions for change and call the stakeholders to act.
How will you articulate the changes that are needed?	With a clear, logical, and persuasive approach. Need to be able to convey my messages to everyone but at the same time manage to get the stakeholders to understand and take action.
Provide a list of online resources and videos that will support your preparation for public speaking	A) https://youtu.be/xSp78RwcAS4?si=eW4pUxYRD0sHgqLz B) https://youtu.be/AykYRO5d_lI?si=SZk_EvY8s70JVnoh
Evaluate tools that provide visualisation. **Tell me what they are.** **Tell me what you would choose when delivering your presentation and why**	Microsoft Excel. i) Used to import and manipulate data. ii) Create graphs and visual aids to help with the presentation. Microsoft Powerpoint. I) Take my data and structure it into a coherent presentation with a final message,

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.