Just IT

B2W group

Apprenticeships | Training | Recruitment

Data Technician

Name:
Course Date:

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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

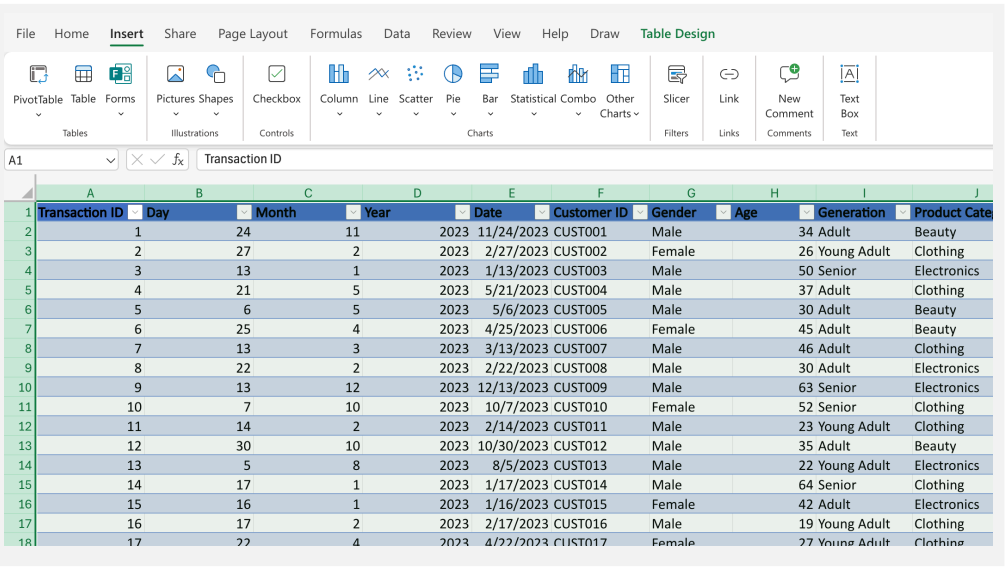
Data Protection Act	Is a law stating how personal data should be collected, stored and disposed off to protect people's private information from cyber attackers who would misuse the data, such as identity theft. Impact of working with data requires strong security measures to protect data, and can only be kept for a period of time. If breached, can result in fines, legal action and repetitional damage.
GDPR	Is General Data Protection Regulation showing how companies should handle personal data to maintain peoples privacy. It gives people more rights over their data as companies are required to get consent and ensure information is secure. E.g. Instagram must allow user to delete account and all personal data. Impact on working with data requires informed consent. If breached, results in fines and legal action taken.
Freedom of Information Act	Act allows public to access data from public companies, such as the NHS. Important as allows public to understand decisions made and how taxes are spent. Impact on working with data requires companies to make sure data is accurate and accountable to public requests. If breached, results in fines, reputable damage and/or legal penalties.
Computer Misuse Act	Act protects network devices from cyber attackers by making unauthorised access, hacking and fraud a crime. It safeguards people and companies by preventing personal data being stolen for misuse. Strong cybersecurity measures such as firewalls are installed on devices to prevent unauthorised access. If breaches, can cause data loss, reputational damage, fines and criminal prosecution.

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:

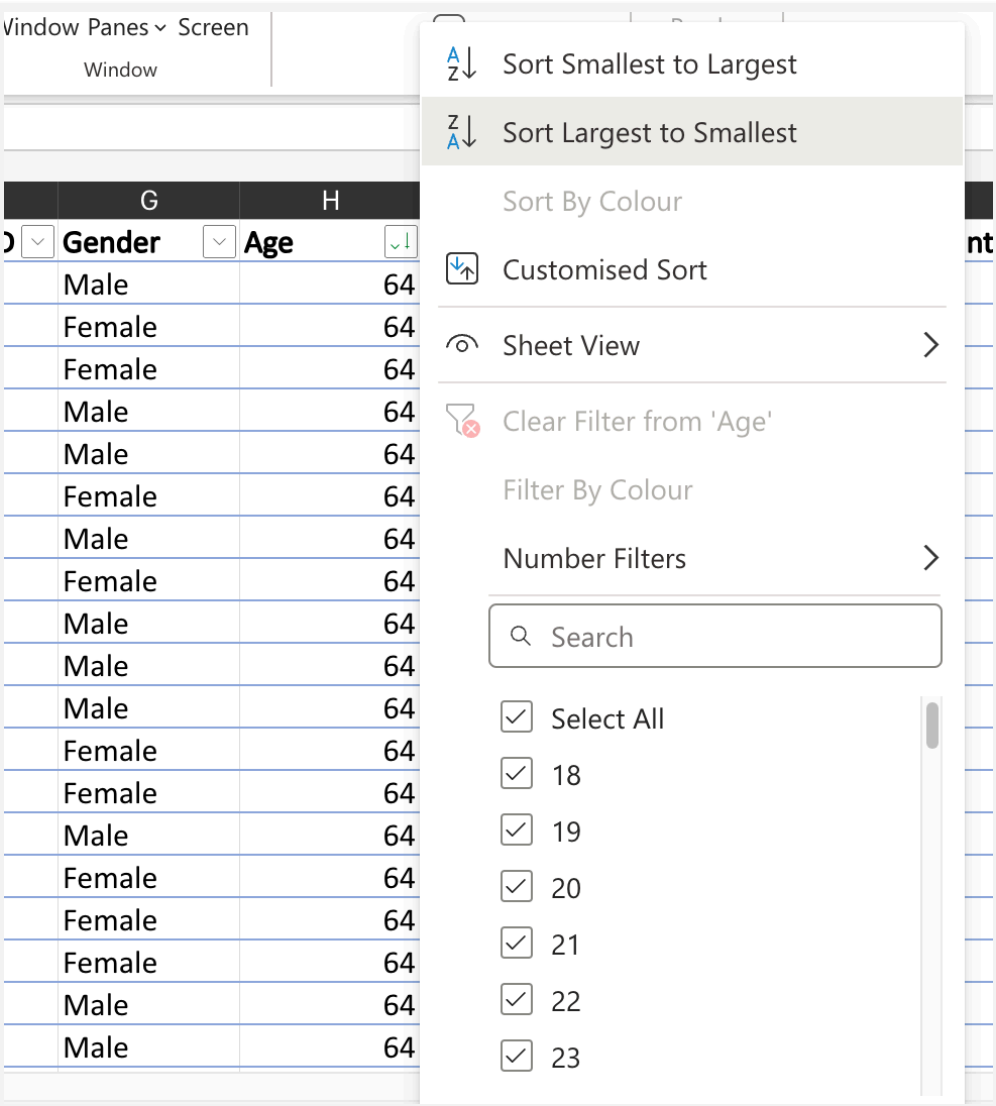
1. In the sheet 'retail_sales_dataset' add all available data between columns **A – H** into a 'table'
2. Using the 'filter' function, filter 'Age' to 'largest to smallest'
3. Using the 'SUM' function, show me the commission total in cell '**P10**'
4. Using the 'AVERAGE' function, show me the average commission in cell '**P11**'

Print screen 1



	A	B	C	D	E	F	G	H	I	J
1	Transaction ID	Day	Month	Year	Date	Customer ID	Gender	Age	Generation	Product Cate
2	1	24	11	2023	11/24/2023	CUST001	Male	34	Adult	Beauty
3	2	27	2	2023	2/27/2023	CUST002	Female	26	Young Adult	Clothing
4	3	13	1	2023	1/13/2023	CUST003	Male	50	Senior	Electronics
5	4	21	5	2023	5/21/2023	CUST004	Male	37	Adult	Clothing
6	5	6	5	2023	5/6/2023	CUST005	Male	30	Adult	Beauty
7	6	25	4	2023	4/25/2023	CUST006	Female	45	Adult	Beauty
8	7	13	3	2023	3/13/2023	CUST007	Male	46	Adult	Clothing
9	8	22	2	2023	2/22/2023	CUST008	Male	30	Adult	Electronics
10	9	13	12	2023	12/13/2023	CUST009	Male	63	Senior	Electronics
11	10	7	10	2023	10/7/2023	CUST010	Female	52	Senior	Clothing
12	11	14	2	2023	2/14/2023	CUST011	Male	23	Young Adult	Clothing
13	12	30	10	2023	10/30/2023	CUST012	Male	35	Adult	Beauty
14	13	5	8	2023	8/5/2023	CUST013	Male	22	Young Adult	Electronics
15	14	17	1	2023	1/17/2023	CUST014	Male	64	Senior	Clothing
16	15	16	1	2023	1/16/2023	CUST015	Female	42	Adult	Electronics
17	16	17	2	2023	2/17/2023	CUST016	Male	19	Young Adult	Clothing
18	17	22	4	2023	4/22/2023	CUST017	Female	27	Young Adult	Clothing

Print screen 2



	G	H
	Gender	Age
	Male	64
	Female	64
	Female	64
	Male	64
	Male	64
	Female	64
	Male	64
	Female	64
	Male	64
	Male	64
	Male	64
	Female	64
	Female	64
	Male	64
	Female	64
	Female	64
	Female	64
	Male	64
	Male	64

Print screen 3

	L	M	N	O	P
1	e per Unit	Total Sales	Comission 2023	Comission 2024	
2	50	150	£ 2.25	£ 3.00	
3	500	1000	£ 15.00	£ 20.00	
4	30	30	£ 0.45	£ 0.60	
5	500	500	£ 7.50	£ 10.00	
6	50	100	£ 1.50	£ 2.00	
7	30	30	£ 0.45	£ 0.60	
8	25	50	£ 0.75	£ 1.00	
9	25	100	£ 1.50	£ 2.00	Comission total 2023
10	300	600	£ 9.00	£ 12.00	£ 6,840.00

Print screen 4

	L	M	N	O	P
1	e per Unit	Total Sales	Comission 2023	Comission 2024	
2	50	150	£ 2.25	£ 3.00	
3	500	1000	£ 15.00	£ 20.00	
4	30	30	£ 0.45	£ 0.60	
5	500	500	£ 7.50	£ 10.00	
6	50	100	£ 1.50	£ 2.00	
7	30	30	£ 0.45	£ 0.60	
8	25	50	£ 0.75	£ 1.00	
9	25	100	£ 1.50	£ 2.00	
10	300	600	£ 9.00	£ 12.00	Average comission 2023
11	50	200	£ 3.00	£ 4.00	£ 6.84

Day 2: Task 2

Please research and complete the following tasks within the retail-sales_dataset.xlsx document in Task 2 worksheet, 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	C
1	Student name	Mathematics
2	Carol	85
3	John	80
4	Edward	80
5	Khan	75
6	Ted	75
7	Harry	70
8	Sarah	70
9	Mary	70
10	Linda	50
11	Thomas	30

	A	D
1	Student name	Science
2	Ted	90
3	Carol	85
4	Khan	80
5	Harry	80
6	Sarah	80
7	John	70
8	Linda	70
9	Mary	65
10	Thomas	65
11	Edward	60

	A	B	C	D	E
1	Student name	English	Mathematics	Science	Average
2	Ted	80	75	90	81.666667
3	Carol	75	85	85	81.666667
4	Khan	85	75	80	80
5	Harry	80	70	80	76.666667
6	Sarah	80	70	80	76.666667
7	John	65	80	70	71.666667
8	Linda	90	50	70	70
9	Edward	55	80	60	65
10	Mary	55	70	65	63.333333
11	Thomas	55	30	65	50

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	81.666667	90
3	Linda	90	50	70	70	90
4	Carol	75	85	85	81.666667	85
5	Khan	85	75	80	80	85
6	Harry	80	70	80	76.666667	80
7	Sarah	80	70	80	76.666667	80
8	John	65	80	70	71.666667	80
9	Edward	55	80	60	65	80
10	Mary	55	70	65	63.333333	70
11	Thomas	55	30	65	50	65

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	81.666667	90
3	Linda	90	50	70	70	90
4	Carol	75	85	85	81.666667	85
5	Khan	85	75	80	80	85
6	Harry	80	70	80	76.666667	80
7	Sarah	80	70	80	76.666667	80
8	John	65	80	70	71.666667	80
9	Edward	55	80	60	65	80
10	Mary	55	70	65	63.333333	70
11	Thomas	55	30	65	50	65

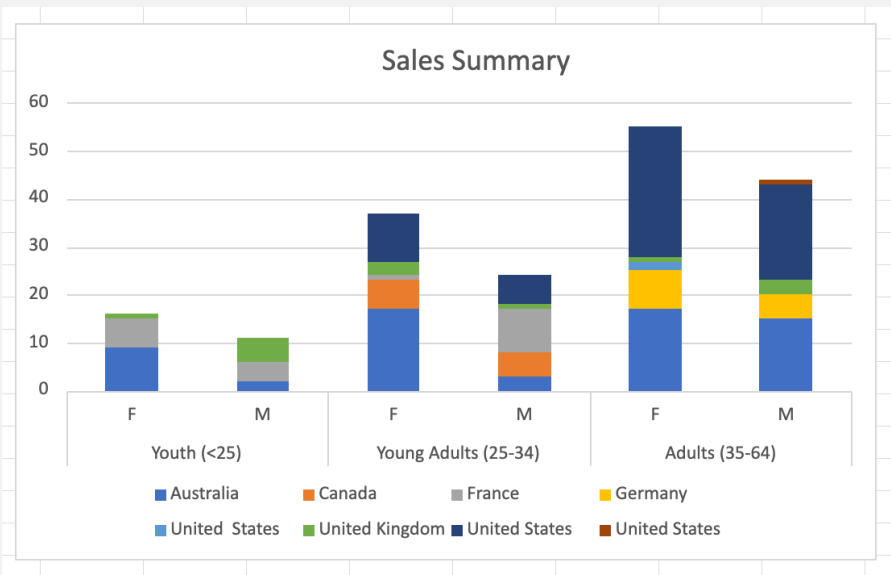
Day 3: Task 1

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



Sum of Order_Quantity		Country								
Age_Group	Customer_Gender	Australia	Canada	France	Germany	United States	United Kingdom	United States	United States	Grand Total
Youth (<25)	F	9	0	6	0	0	1	0	0	16
	M	2	0	4	0	0	5	0	0	11
Youth (<25) Total		**11**	**0**	**10**	**0**	**0**	**6**	**0**	**0**	**27**
Young Adults (25-34)	F	17	6	1	0	0	3	10	0	37
	M	3	5	9	0	0	1	6	0	24
Young Adults (25-34) Total		**20**	**11**	**10**	**0**	**0**	**4**	**16**	**0**	**61**
Adults (35-64)	F	17	0	0	8	2	1	27	0	55
	M	15	0	0	5	0	3	20	1	44
Adults (35-64) Total		**32**	**0**	**0**	**13**	**2**	**4**	**47**	**1**	**99**
Grand Total		**63**	**11**	**20**	**13**	**2**	**14**	**63**	**1**	**187**

In which markets do Germany have customers?	Adults (35-64). 8 females and 5 males in that category.
What country has sales in all markets?	United Kingdom and Australia has sales in all markets (shown in previous screenshot).
What are the most profitable markets by country, age group, and gender?	As shown in graph, Females who are adults (35-64) buy the most product and generate the most sales. Profitable markets are shown to be in United states followed by Australia.
Any other findings?	Globally, youth age group has lowest sales. This could because of popular alternatives like electric scooters or public transport which is free in some countries. No sales to adult males in France could be a result of lifestyle factors, might prefer cheaper or efficient alternatives, such as trams. Might be only one successful market category in UK due to economic factors, such as inflation, limiting consumer spending. Overall, females buy more than males across all age groups, could be due to marketing of fitness that appeals to them more.

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

Sum of Sales Volume	Product			
County	Laptops	Printers	Smartphones	Grand Total
Cornwall	700	400	0	1100
Durham	250	300	0	550
Essex	0	800	300	1100
Greater Manchester	400	0	600	1000
Lancashire	600	0	150	750
Yorkshire	500	0	200	700
Grand Total	**2450**	**1500**	**1250**	**5200**

County	Product	Sales Volume	Porducts sale volume
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

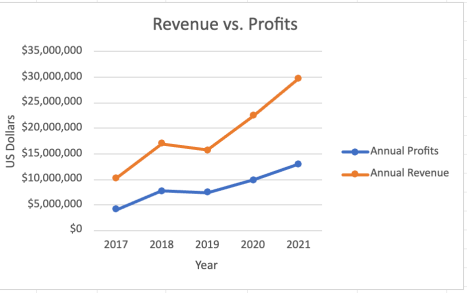
Please download the dataset
'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from here.

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 good experience.

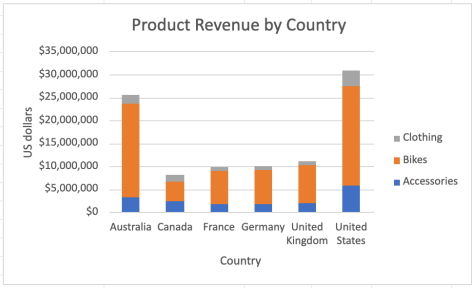
Please paste your results below:

Print screen 1

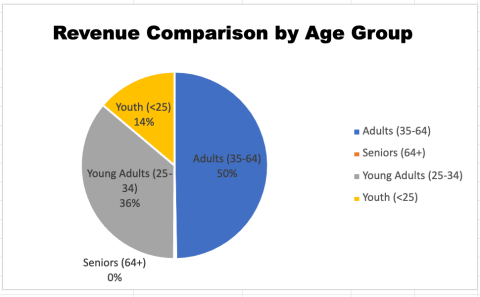
Year	Annual Profits	Annual Revenue
2017	4065680	10289670
2018	7747551	17028380
2019	7417353	15705990
2020	9909624	22405052
2021	12986202	29747226
Grand Total	**42126410**	**95176318**



Sum of Revenue	Product_Category			
Country	Accessories	Bikes	Clothing	Grand Total
Australia	3284787	20231486	1911313	25427586
Canada	2305298	4317696	1391542	8014536
France	1627689	7378349	841175	9847213
Germany	1724549	7544500	713154	9982203
United Kingdom	1951000	8184668	954338	11090006
United States	5819323	21551497	3443954	30814774
Grand Total	**16712646**	**69208196**	**9255476**	**95176318**



Age_Group	Sum of Revenue
Adults (35-64)	47323876
Seniors (64+)	339700
Young Adults (25-34)	34310905
Youth (<25)	13201837
Grand Total	**95176318**



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 by submitting in MS Teams Assignment page.