Just IT

B2W group

Apprenticeships | Training | Recruitment

Data Technician

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Course Date: From 12/16/24

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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 (DPA) is a UK law that governs how personal data is collected, processed, stored, and shared by organizations. It ensures individuals' privacy rights are protected and provides a framework for organizations to handle personal data responsibly. The current version, the Data Protection Act 2018, aligns with the General Data Protection Regulation (GDPR) and includes specific provisions tailored to the UK. It ensures personal data will be kept securely and safely. Prevent misuse or unauthorized access to personal data. Empower individuals to control how their personal data is used and to hold organizations accountable. The Information Commissioner's Office (ICO) enforces the DPA 2018 and can impose significant penalties for breaches: Administrative Fines: For serious breaches, fines can be up to £17.5 million or 4% of annual global turnover, whichever is higher. For less severe breaches, fines can be up to £8.7 million or 2% of annual global turnover, whichever is higher. Criminal Prosecution: Certain violations, such as unlawfully obtaining or sharing personal data without consent, can lead to criminal charges. Offenders may face fines or imprisonment depending on the circumstances.
GDPR	The General Data Protection Regulation (GDPR) is a comprehensive data protection law implemented by the European Union (EU) on May 25, 2018. It aims to give individuals greater control over their personal data and to standardize data protection laws across EU member states. The GDPR applies to organizations operating within the EU and to those outside the EU that offer goods or services to, or monitor the behavior of, individuals in the EU. For a real-world example, I can follow it by only accessing my personal data and the data I am allowed to access. Any data should not be stored longer than the necessary time

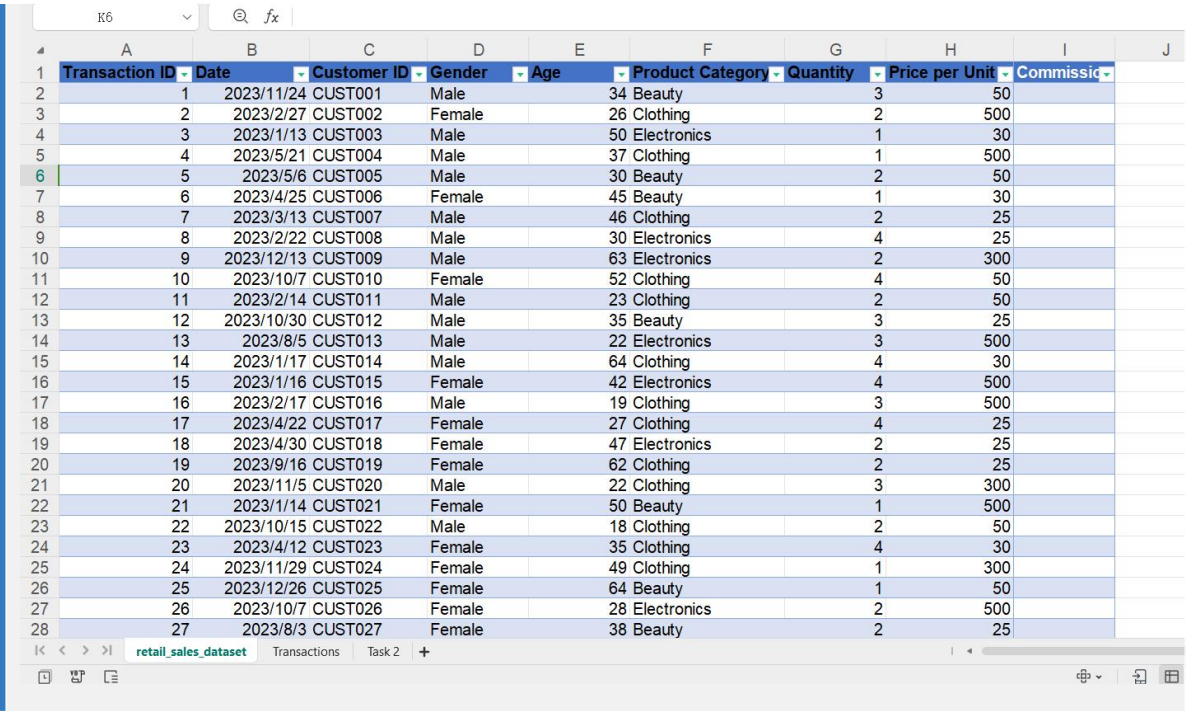
	and individuals have the right to ask to erase all personal data. If a certain organization does not follow the regulations, it can be fined up to 20 million Euros or 4% of annual global turnover if it is higher.
Freedom of Information Act	The Freedom of Information Act 2000 (FOIA) is a UK law that provides the public with the right to access information held by public authorities. Its purpose is to promote transparency, accountability, and better governance by allowing individuals and organizations to request and receive information about the activities of public bodies. For real-world examples, individuals or organizations can request information from UK's public authorities. If I want to access my personal medical data, I can request information from NHS. Public authorities must respond to requests within 20 working days. If a public authority fails to respond to a Freedom of Information (FOI) request within the statutory 20-working-day deadline, the requester can file a complaint with the Information Commissioner's Office (ICO). Individuals responsible could face a criminal conviction and a fine.
Computer Misuse Act	The Computer Misuse Act 1990 is a UK law that addresses the unauthorized use of computers and data. Its primary purpose is to protect computer systems and information from misuse such as hacking, unauthorized access, and malicious software attacks. It criminalizes certain activities involving computers to ensure the safety and security of electronic data and systems. Under this law, for example, if I access to a computer material unauthorized, I will be facing up to 2 years in prison of a fine. The law covers both unauthorized access and unauthorized modification of computer systems and data, applies even if no data is stolen or damaged; the mere act of unauthorized access is an offense, targets activities like hacking, phishing, spreading malware, and creating or distributing hacking tools.

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:

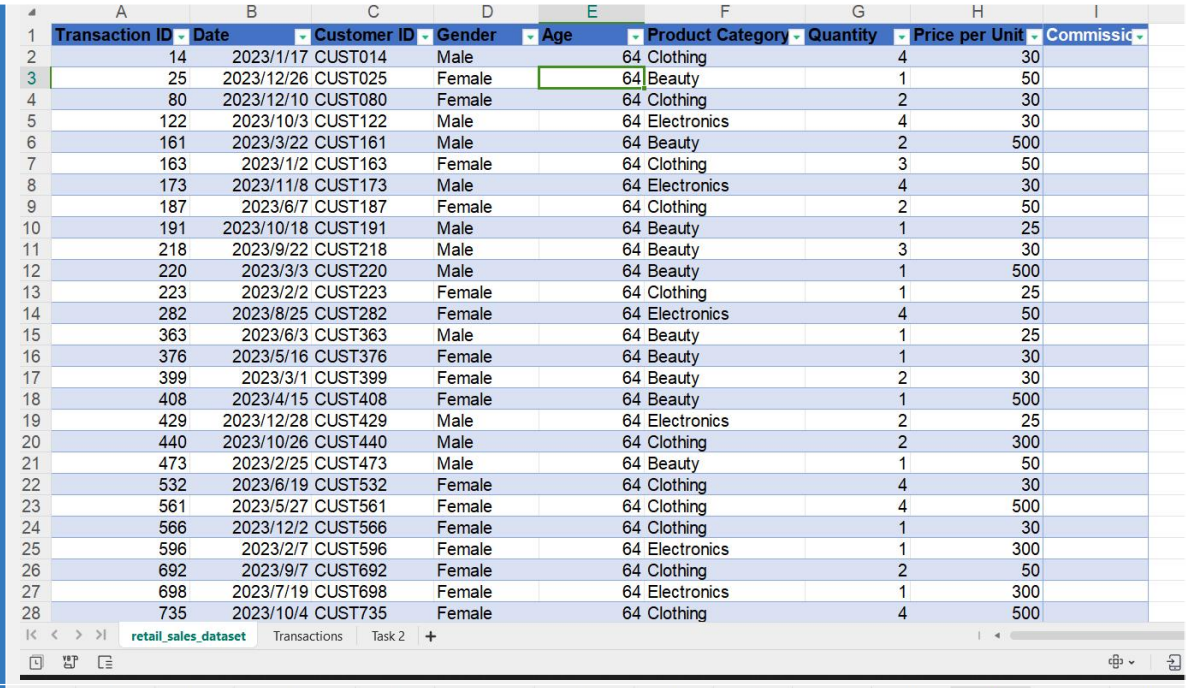
1. In the sheet 'retail_sales_dataset' add all available data between columns A –J into a 'table'
2. Using the 'filter' function, filter 'Age' to 'largest to smallest'
3. Using the 'SUM' function, show me the commission total in cell 'L10'
4. Using the 'AVERAGE' function, show me the average commission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

Print screen 1



Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Commissio
1	2023/11/24	CUST001	Male	34	Beauty	3	50	
2	2023/2/27	CUST002	Female	26	Clothing	2	500	
3	2023/1/13	CUST003	Male	50	Electronics	1	30	
4	2023/5/21	CUST004	Male	37	Clothing	1	500	
5	2023/5/6	CUST005	Male	30	Beauty	2	50	
6	2023/4/25	CUST006	Female	45	Beauty	1	30	
7	2023/3/13	CUST007	Male	46	Clothing	2	25	
8	2023/2/22	CUST008	Male	30	Electronics	4	25	
9	2023/12/13	CUST009	Male	63	Electronics	2	300	
10	2023/10/7	CUST010	Female	52	Clothing	4	50	
11	2023/2/14	CUST011	Male	23	Clothing	2	50	
12	2023/10/30	CUST012	Male	35	Beauty	3	25	
13	2023/8/5	CUST013	Male	22	Electronics	3	500	
14	2023/1/17	CUST014	Male	64	Clothing	4	30	
15	2023/1/16	CUST015	Female	42	Electronics	4	500	
16	2023/2/17	CUST016	Male	19	Clothing	3	500	
17	2023/4/22	CUST017	Female	27	Clothing	4	25	
18	2023/4/30	CUST018	Female	47	Electronics	2	25	
19	2023/9/16	CUST019	Female	62	Clothing	2	25	
20	2023/11/5	CUST020	Male	22	Clothing	3	300	
21	2023/1/14	CUST021	Female	50	Beauty	1	500	
22	2023/10/15	CUST022	Male	18	Clothing	2	50	
23	2023/4/12	CUST023	Female	35	Clothing	4	30	
24	2023/11/29	CUST024	Female	49	Clothing	1	300	
25	2023/12/26	CUST025	Female	64	Beauty	1	50	
26	2023/10/7	CUST026	Female	28	Electronics	2	500	
27	2023/8/3	CUST027	Female	38	Beauty	2	25	

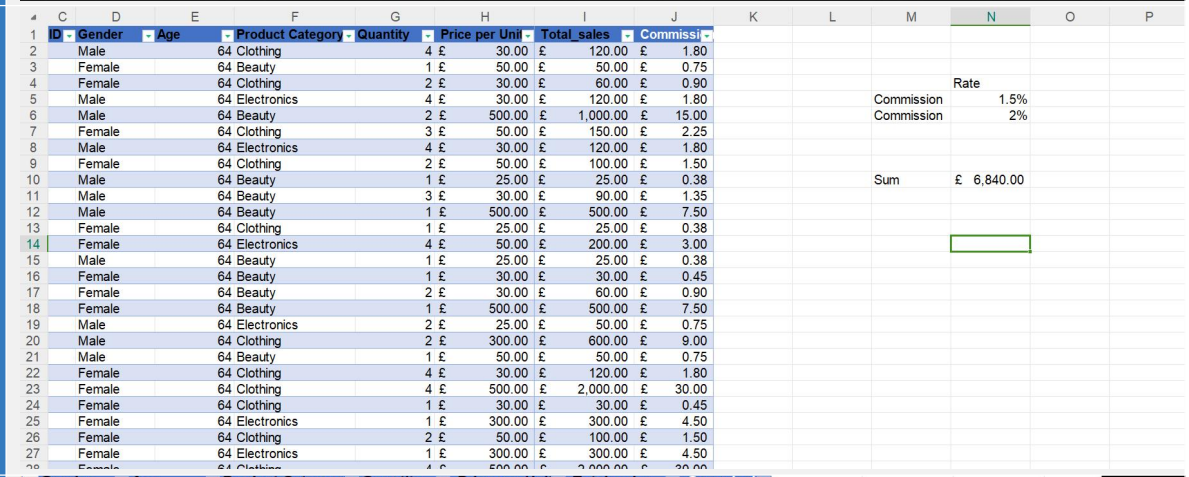
Print screen 2



	A	B	C	D	E	F	G	H	I
1	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Commissio
2	14	2023/1/17	CUST014	Male	64	Clothing	4	30	
3	25	2023/12/26	CUST025	Female	64	Beauty	1	50	
4	80	2023/12/10	CUST080	Female	64	Clothing	2	30	
5	122	2023/10/3	CUST122	Male	64	Electronics	4	30	
6	161	2023/3/22	CUST161	Male	64	Beauty	2	500	
7	163	2023/1/2	CUST163	Female	64	Clothing	3	50	
8	173	2023/11/8	CUST173	Male	64	Electronics	4	30	
9	187	2023/6/7	CUST187	Female	64	Clothing	2	50	
10	191	2023/10/18	CUST191	Male	64	Beauty	1	25	
11	218	2023/9/22	CUST218	Male	64	Beauty	3	30	
12	220	2023/3/3	CUST220	Male	64	Beauty	1	500	
13	223	2023/2/2	CUST223	Female	64	Clothing	1	25	
14	282	2023/8/25	CUST282	Female	64	Electronics	4	50	
15	363	2023/6/3	CUST363	Male	64	Beauty	1	25	
16	376	2023/5/16	CUST376	Female	64	Beauty	1	30	
17	399	2023/3/1	CUST399	Female	64	Beauty	2	30	
18	408	2023/4/15	CUST408	Female	64	Beauty	1	500	
19	429	2023/12/28	CUST429	Male	64	Electronics	2	25	
20	440	2023/10/26	CUST440	Male	64	Clothing	2	300	
21	473	2023/2/25	CUST473	Male	64	Beauty	1	50	
22	532	2023/6/19	CUST532	Female	64	Clothing	4	30	
23	561	2023/5/27	CUST561	Female	64	Clothing	4	500	
24	566	2023/12/2	CUST566	Female	64	Clothing	1	30	
25	596	2023/2/7	CUST596	Female	64	Electronics	1	300	
26	692	2023/9/7	CUST692	Female	64	Clothing	2	50	
27	698	2023/7/19	CUST698	Female	64	Electronics	1	300	
28	735	2023/10/4	CUST735	Female	64	Clothing	4	500	

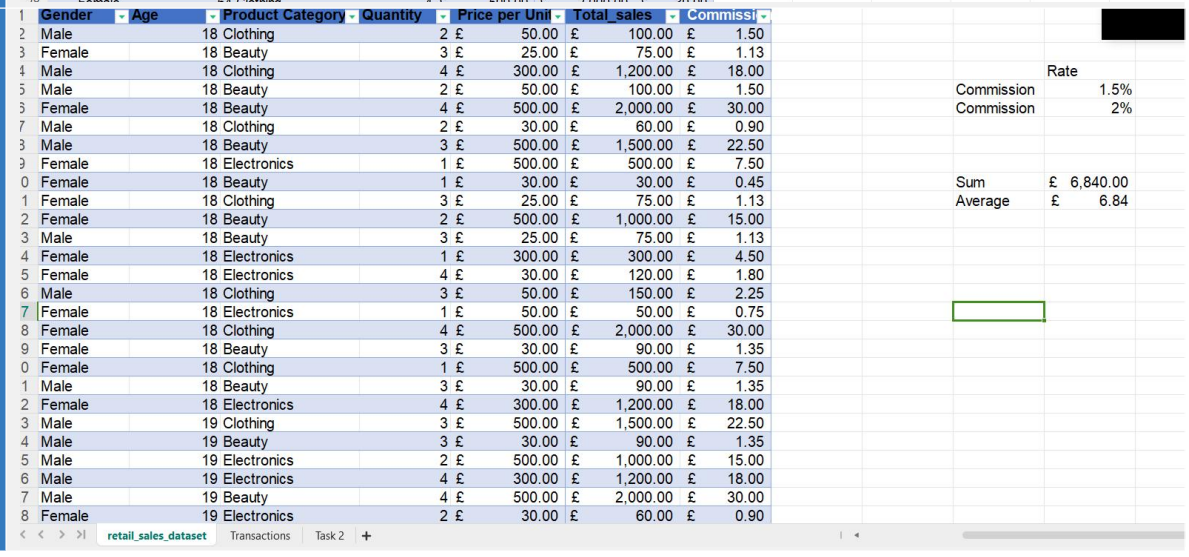
retail_sales_dataset | Transactions | Task 2 +

Print screen 3



	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	ID	Gender	Age	Product Category	Quantity	Price per Unit	Total_sales	Commissi						
2		Male	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80						
3		Female	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75						
4		Female	64	Clothing	2	£ 30.00	£ 60.00	£ 0.90				Rate		
5		Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80			Commission	1.5%		
6		Male	64	Beauty	2	£ 500.00	£ 1,000.00	£ 15.00			Commission	2%		
7		Female	64	Clothing	3	£ 50.00	£ 150.00	£ 2.25						
8		Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80						
9		Female	64	Clothing	2	£ 50.00	£ 100.00	£ 1.50						
10		Male	64	Beauty	1	£ 25.00	£ 25.00	£ 0.38			Sum	£ 6,840.00		
11		Male	64	Beauty	3	£ 30.00	£ 90.00	£ 1.35						
12		Male	64	Beauty	1	£ 500.00	£ 500.00	£ 7.50						
13		Female	64	Clothing	1	£ 25.00	£ 25.00	£ 0.38						
14		Female	64	Electronics	4	£ 50.00	£ 200.00	£ 3.00						
15		Male	64	Beauty	1	£ 25.00	£ 25.00	£ 0.38						
16		Female	64	Beauty	1	£ 30.00	£ 30.00	£ 0.45						
17		Female	64	Beauty	2	£ 30.00	£ 60.00	£ 0.90						
18		Female	64	Beauty	1	£ 500.00	£ 500.00	£ 7.50						
19		Male	64	Electronics	2	£ 25.00	£ 50.00	£ 0.75						
20		Male	64	Clothing	2	£ 300.00	£ 600.00	£ 9.00						
21		Male	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75						
22		Female	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80						
23		Female	64	Clothing	4	£ 500.00	£ 2,000.00	£ 30.00						
24		Female	64	Clothing	1	£ 30.00	£ 30.00	£ 0.45						
25		Female	64	Electronics	1	£ 300.00	£ 300.00	£ 4.50						
26		Female	64	Clothing	2	£ 50.00	£ 100.00	£ 1.50						
27		Female	64	Electronics	1	£ 300.00	£ 300.00	£ 4.50						

Print screen 4



	Gender	Age	Product Category	Quantity	Price per Unit	Total_sales	Commissi			
2	Male	18	Clothing	2	£ 50.00	£ 100.00	£ 1.50			
3	Female	18	Beauty	3	£ 25.00	£ 75.00	£ 1.13			
4	Male	18	Clothing	4	£ 300.00	£ 1,200.00	£ 18.00		Rate	
5	Male	18	Beauty	2	£ 50.00	£ 100.00	£ 1.50	Commission	1.5%	
6	Female	18	Beauty	4	£ 500.00	£ 2,000.00	£ 30.00	Commission	2%	
7	Male	18	Clothing	2	£ 30.00	£ 60.00	£ 0.90			
8	Male	18	Beauty	3	£ 500.00	£ 1,500.00	£ 22.50			
9	Female	18	Electronics	1	£ 500.00	£ 500.00	£ 7.50			
10	Female	18	Beauty	1	£ 30.00	£ 30.00	£ 0.45	Sum	£ 6,840.00	
11	Female	18	Clothing	3	£ 25.00	£ 75.00	£ 1.13	Average	£ 6.84	
12	Female	18	Beauty	2	£ 500.00	£ 1,000.00	£ 15.00			
13	Male	18	Beauty	3	£ 25.00	£ 75.00	£ 1.13			
14	Female	18	Electronics	1	£ 300.00	£ 300.00	£ 4.50			
15	Female	18	Electronics	4	£ 30.00	£ 120.00	£ 1.80			
16	Male	18	Clothing	3	£ 50.00	£ 150.00	£ 2.25			
17	Female	18	Electronics	1	£ 50.00	£ 50.00	£ 0.75			
18	Female	18	Clothing	4	£ 500.00	£ 2,000.00	£ 30.00			
19	Female	18	Beauty	3	£ 30.00	£ 90.00	£ 1.35			
20	Female	18	Clothing	1	£ 500.00	£ 500.00	£ 7.50			
21	Male	18	Beauty	3	£ 30.00	£ 90.00	£ 1.35			
22	Female	18	Electronics	4	£ 300.00	£ 1,200.00	£ 18.00			
23	Male	19	Clothing	3	£ 500.00	£ 1,500.00	£ 22.50			
24	Male	19	Beauty	3	£ 30.00	£ 90.00	£ 1.35			
25	Male	19	Electronics	2	£ 500.00	£ 1,000.00	£ 15.00			
26	Male	19	Electronics	4	£ 300.00	£ 1,200.00	£ 18.00			
27	Male	19	Beauty	4	£ 500.00	£ 2,000.00	£ 30.00			
28	Female	19	Electronics	2	£ 30.00	£ 60.00	£ 0.90			

retail_sales_dataset | Transactions | Task 2 +

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

	Student name	English	Mathemat	Science	Average	Highest sco
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						

	A	B	C	D	E	F
1	Student name	English	Mathemat	Science	Average	Highest sco
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						

	A	B	C	D	E	F
1	Student name	English	Mathemat	Science	Average	Highest sco
2	Ted	80	75	90		
3	Carol	75	85	85		
4	Khan	85	75	80		
5	Harry	80	70	80		
6	Sarah	80	70	80		
7	John	65	80	70		
8	Linda	90	50	70		
9	Mary	55	70	65		
10	Thomas	55	30	65		
11	Edward	55	80	60		
12						

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	=AVERAGE(B2:D2)	
3	Carol	75	85	85	=AVERAGE(B3:D3)	
4	Khan	85	75	80	=AVERAGE(B4:D4)	
5	Harry	80	70	80	=AVERAGE(B5:D5)	
6	Sarah	80	70	80	=AVERAGE(B6:D6)	
7	John	65	80	70	=AVERAGE(B7:D7)	
8	Linda	90	50	70	=AVERAGE(B8:D8)	
9	Mary	55	70	65	=AVERAGE(B9:D9)	
10	Thomas	55	30	65	=AVERAGE(B10:D10)	
11	Edward	55	80	60	=AVERAGE(B11:D11)	

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	=AVERAGE(B2:D2)	=MAX(B2:D2)
3	Carol	75	85	85	=AVERAGE(B3:D3)	=MAX(B3:D3)
4	Khan	85	75	80	=AVERAGE(B4:D4)	=MAX(B4:D4)
5	Harry	80	70	80	=AVERAGE(B5:D5)	=MAX(B5:D5)
6	Sarah	80	70	80	=AVERAGE(B6:D6)	=MAX(B6:D6)
7	John	65	80	70	=AVERAGE(B7:D7)	=MAX(B7:D7)
8	Linda	90	50	70	=AVERAGE(B8:D8)	=MAX(B8:D8)
9	Mary	55	70	65	=AVERAGE(B9:D9)	=MAX(B9:D9)
10	Thomas	55	30	65	=AVERAGE(B10:D10)	=MAX(B10:D10)
11	Edward	55	80	60	=AVERAGE(B11:D11)	=MAX(B11:D11)
12						

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	=AVERAGE(B2:D2)	=MAX(B2:D2)
3	Carol	75	85	85	=AVERAGE(B3:D3)	=MAX(B3:D3)
4	Khan	85	75	80	=AVERAGE(B4:D4)	=MAX(B4:D4)
5	Harry	80	70	80	=AVERAGE(B5:D5)	=MAX(B5:D5)
6	Sarah	80	70	80	=AVERAGE(B6:D6)	=MAX(B6:D6)
7	John	65	80	70	=AVERAGE(B7:D7)	=MAX(B7:D7)
8	Linda	90	50	70	=AVERAGE(B8:D8)	=MAX(B8:D8)
9	Edward	55	80	60	=AVERAGE(B9:D9)	=MAX(B9:D9)
10	Mary	55	70	65	=AVERAGE(B10:D10)	=MAX(B10:D10)
11	Thomas	55	30	65	=AVERAGE(B11:D11)	=MAX(B11:D11)

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	=AVERAGE(B2:D2)	=MAX(B2:D2)
3	Linda	90	50	70	=AVERAGE(B3:D3)	=MAX(B3:D3)
4	Carol	75	85	85	=AVERAGE(B4:D4)	=MAX(B4:D4)
5	Khan	85	75	80	=AVERAGE(B5:D5)	=MAX(B5:D5)
6	Harry	80	70	80	=AVERAGE(B6:D6)	=MAX(B6:D6)
7	Sarah	80	70	80	=AVERAGE(B7:D7)	=MAX(B7:D7)
8	John	65	80	70	=AVERAGE(B8:D8)	=MAX(B8:D8)
9	Edward	55	80	60	=AVERAGE(B9:D9)	=MAX(B9:D9)
10	Mary	55	70	65	=AVERAGE(B10:D10)	=MAX(B10:D10)
11	Thomas	55	30	65	=AVERAGE(B11:D11)	=MAX(B11:D11)

	A	B	C	D	E	F
1	Student name	English	Mathematics	Science	Average	Highest score
2	Ted	80	75	90	=AVERAGE(B2:D2)	=MAX(B2:D2)
3	Linda	90	50	70	=AVERAGE(B3:D3)	=MAX(B3:D3)
4	Carol	75	85	85	=AVERAGE(B4:D4)	=MAX(B4:D4)
5	Khan	85	75	80	=AVERAGE(B5:D5)	=MAX(B5:D5)
6	Harry	80	70	80	=AVERAGE(B6:D6)	=MAX(B6:D6)
7	Sarah	80	70	80	=AVERAGE(B7:D7)	=MAX(B7:D7)
8	John	65	80	70	=AVERAGE(B8:D8)	=MAX(B8:D8)
9	Edward	55	80	60	=AVERAGE(B9:D9)	=MAX(B9:D9)
10	Mary	55	70	65	=AVERAGE(B10:D10)	=MAX(B10:D10)
11	Thomas	55	30	65	=AVERAGE(B11:D11)	=MAX(B11:D11)

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 scree n 1

J2 | fx | Edward

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Student name	English	Mathemat	Science	Average	Highest sco								
2	Carol	75	85	85	81.67	85								
3	Ted	80	75	90	81.67	90			Name	Edward				
4	Khan	85	75	80	80.00	85			Best Subject					
5	Harry	80	70	80	76.67	80			Average	65				
6	Sarah	80	70	80	76.67	80			Highest Score	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														

I used data validation and XLookup function to make a grade searching system that user can select the students' names in the drop-down box and get their grades. But I stuck at how to find the best subject part.

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

Country	Age_Group	Sum of Revenue
Australia		**111506**
	Adults (35-64)	63668
	Young Adults (25-34)	41773
	Youth (<25)	6065
Canada		**20080**
	Young Adults (25-34)	20080
France		**46175**
	Young Adults (25-34)	23050
	Youth (<25)	23125
Germany		**30010**
	Adults (35-64)	30010
United States		**4590**
	Adults (35-64)	4590
United Kingdom		**19972**
	Adults (35-64)	9230
	Young Adults (25-34)	4602
	Youth (<25)	6140
United States		**126604**
	Adults (35-64)	96463
	Young Adults (25-34)	30141
United States		**2295**
	Adults (35-64)	2295
Grand Total		**361232**

In which markets does Germany have customers ?

By age group, Adults(35-64)

Country	Germany
State	**Sum of Revenue**
Nordrhein-Westfalen	20780
Hessen	6910
Hamburg	2320
Grand Total	**30010**

	By States, in three states that Germany has markets in.
What country has sales in all markets?	Australia and UK

Country	Age_Group	Sum of Revenue
United States		**126604**
	Adults (35-64)	96463
	Young Adults (25-34)	30141
Australia		**111506**
	Adults (35-64)	63668
	Youth (<25)	6065
	Young Adults (25-34)	41773
France		**46175**
	Youth (<25)	23125
	Young Adults (25-34)	23050
Germany		**30010**
	Adults (35-64)	30010
Canada		**20080**
	Young Adults (25-34)	20080
United Kingdom		**19972**
	Adults (35-64)	9230
	Youth (<25)	6140
	Young Adults (25-34)	4602
United States		**4590**
	Adults (35-64)	4590
United States		**2295**
	Adults (35-64)	2295
Grand Total		**361232**

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

Country	Sum of Revenue
United States	126604
Australia	111506
France	46175
Germany	30010
Canada	20080
United Kingdom	19972
United States	4590
United States	2295
Grand Total	**361232**

By Age Group:

Age_Group	Sum of Revenue
Adults (35-64)	206256
Young Adults (25-34)	119646
Youth (<25)	35330
Grand Total	**361232**

By Gender:

Customer_Gender	Sum of Revenue
F	216049
M	145183
Grand Total	**361232**

Any other findings?

Age_Group	Country	Sum of Revenue
Adults (35-64)		**206256**
	United States	96463
	Australia	63668
	Germany	30010
	United Kingdom	9230
	United States	4590
	United States	2295
Young Adults (25-34)		**119646**
	Australia	41773
	United States	30141
	France	23050
	Canada	20080
	United Kingdom	4602
Youth (<25)		**35330**
	France	23125
	United Kingdom	6140
	Australia	6065
Grand Total		**361232**

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

County	Product	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

	A	B	C	D
1	County	Product	Sales Volume	Categories
2	Yorkshire	Laptops	500	=SWITCH(TRUE,C2>600,"High",C2>=300,"Medium","Low")
3	Yorkshire	Smartphones	200	=SWITCH(TRUE,C3>600,"High",C3>=300,"Medium","Low")
4	Cornwall	Laptops	700	=SWITCH(TRUE,C4>600,"High",C4>=300,"Medium","Low")
5	Cornwall	Printers	400	=SWITCH(TRUE,C5>600,"High",C5>=300,"Medium","Low")
6	Lancashire	Smartphones	150	=SWITCH(TRUE,C6>600,"High",C6>=300,"Medium","Low")
7	Lancashire	Laptops	600	=SWITCH(TRUE,C7>600,"High",C7>=300,"Medium","Low")
8	Essex	Printers	800	=SWITCH(TRUE,C8>600,"High",C8>=300,"Medium","Low")
9	Essex	Smartphones	300	=SWITCH(TRUE,C9>600,"High",C9>=300,"Medium","Low")
10	Durham	Laptops	250	=SWITCH(TRUE,C10>600,"High",C10>=300,"Medium","Low
11	Durham	Printers	300	=SWITCH(TRUE,C11>600,"High",C11>=300,"Medium","Low
12	Greater Manchester	Smartphones	600	=SWITCH(TRUE,C12>600,"High",C12>=300,"Medium","Low
13	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' 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	12-month Profit	12-month Revenue
2017	4065680	10289670
2018	7747551	17028380
2019	7417353	15705990
2020	9909624	22405052
2021	12986202	29747226
Grand Total	42126410	95176318

Year	12-month Profit	12-month Revenue
2017	4065680	10289670
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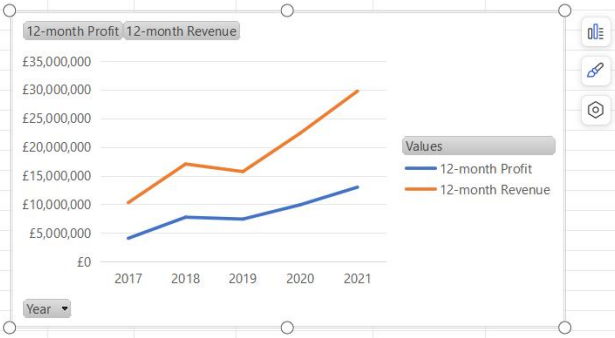
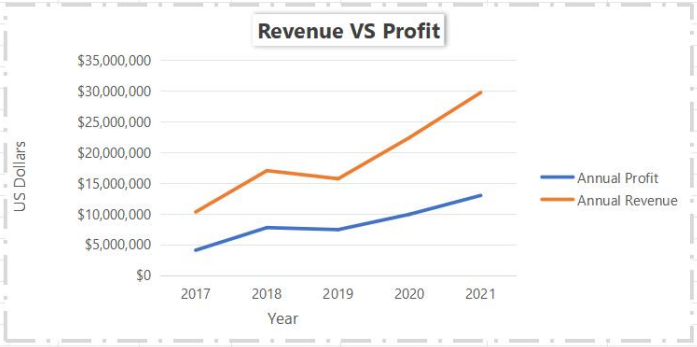
2021	12986202	29747226
Grand Total	42126410	95176318



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



Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, within 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?	First of all, I will analyze my audience. Since my audiences are the directors, I can't deliver my speech with too many technical data. A strong and direct plot is needed, with colorful and easy-understanding graphs to describe my findings. I will practice in advance with my friends and families to get their feedback to improve my delivery.

What tools would you use for the delivery?	Pivot Tables and Pivot charts in Microsoft Excel.
What is prospecting and why would you complete this before your delivery?	My prospecting is to show the board that customers are leaving because of the change of price, that is to show the correlation between these two factors. Therefore I will firstly use scatter plot to show the correlation. Then a trend will be showed that if the price is till unchanged, customers will still leave.
Tell me best practices for public speaking and providing updates to senior leaders	Practice makes perfect. I think best way to improve can be trying to tell a story with data more often, making full use of casual data like monthly report, weekly customer feedback and etc.
What will you show the board in your delivery?	1. Current correlation between customer tendency and price. 2. Future prediction if price remains unchanged.

	3. What-if scenarios display to show how current issue can be fixed.
How will you articulate the changes that are needed?	Using What-if analysis in Excel to demonstrate what changes are needed to improve sales.
Provide a list of online resources and videos that will support your preparation for public speaking	https://www.youtube.com/watch?v=i5mYphUoOCs
Evaluate tools that provide visualisation. **Tell me what they are.** **Tell me what you would choose when delivering your presentation and why**	Excel, R studio, Python. Excel is the tool for forms and ranges, while R studio and Python are programming languages. For simple data visualization I will choose Excel for its convenience in using functions by easily clicking panels. When it comes to more complicated data, I will use R studio, that I can process complicated data with it.

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.