

Data Technician

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Day 1: Task 1

Please complete the below boxes on common laws and regulations that must be followed when working with customer 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	It protects people and lays down rules about how data about people can be used by organisations, businesses or the government.
GDPR	It's a comprehensive data protection law that came into effect on 25 May 2018. GDPR is a fundamental shift in how we approach data privacy and security in the digital era.
Freedom of Information Act	FOI requests allow individuals to request recorded information from public authorities under the Freedom of Information Act 2000.
Computer Misuse Act	<p>) The Computer Misuse Act protects personal data held by organisations from unauthorised access and modification).</p> <p>The act makes the following illegal:</p> <ol style="list-style-type: none"> 1. Unauthorised access to computer material. This refers to entering a computer system without permission (hacking) 2. Unauthorised access to computer materials with intent to commit a further crime. This refers to entering a computer system to steal data or destroy a device or network (such as planting a <i>virus</i>) 3. Unauthorised modification of data. This refers to modifying or deleting data, and also covers the introduction of <i>malware</i> or <i>spyware</i> onto a computer (electronic vandalism and theft of information) 4. Making, supplying or obtaining anything which can be used in computer misuse offences

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

Transaction ID	Day	Month	Year	Date	Customer ID	Gender	Age	Generation	Product Category	Quantity	Price per Unit	Total Sales	Commission
1	24	11	2023	24/11/2023	CUST001	Male	34	Adult	Beauty	3	50	150	£
2	27	2	2023	27/02/2023	CUST002	Female	26	Young Adult	Clothing	2	500	1000	£
3	13	1	2023	13/01/2023	CUST003	Male	50	Senior	Electronics	1	30	30	£
4	21	5	2023	21/05/2023	CUST004	Male	37	Adult	Clothing	1	500	500	£
5	6	5	2023	06/05/2023	CUST005	Male	30	Adult	Beauty	2	50	100	£
6	25	4	2023	25/04/2023	CUST006	Female	45	Adult	Beauty	1	30	30	£
7	13	3	2023	13/03/2023	CUST007	Male	46	Adult	Clothing	2	25	50	£
8	22	2	2023	22/02/2023	CUST008	Male	30	Adult	Electronics	4	25	100	£
9	13	12	2023	13/12/2023	CUST009	Male	63	Senior	Electronics	2	300	600	£
10	7	10	2023	07/10/2023	CUST010	Female	52	Senior	Clothing	4	50	200	£
11	14	2	2023	14/02/2023	CUST011	Male	23	Young Adult	Clothing	2	50	100	£
12	30	10	2023	30/10/2023	CUST012	Male	35	Adult	Beauty	3	25	75	£
13	5	8	2023	05/08/2023	CUST013	Male	22	Young Adult	Electronics	3	500	1500	£
14	17	1	2023	17/01/2023	CUST014	Male	64	Senior	Clothing	4	30	120	£
15	16	1	2023	16/01/2023	CUST015	Female	42	Adult	Electronics	4	500	2000	£
16	17	2	2023	17/02/2023	CUST016	Male	19	Young Adult	Clothing	3	500	1500	£
17	22	4	2023	22/04/2023	CUST017	Female	27	Young Adult	Clothing	4	25	100	£

Print screen 2

Transaction ID	Day	Month	Year	Date	Customer ID	Gender	Age	Generation	Product Category	Quantity	Price per Unit	Total Sales	Commission
14	17	1	2023	17/01/2023	CUST014	Male	64	Senior	Clothing	4	30	120	£
25	26	12	2023	26/12/2023	CUST025	Female	64	Senior	Beauty	1	50	50	£
80	10	12	2023	10/12/2023	CUST080	Female	64	Senior	Clothing	2	30	60	£
122	3	10	2023	03/10/2023	CUST122	Male	64	Senior	Electronics	4	30	120	£
161	22	3	2023	22/03/2023	CUST161	Male	64	Senior	Beauty	2	500	1000	£
163	2	1	2023	02/01/2023	CUST163	Female	64	Senior	Clothing	3	50	150	£
173	8	11	2023	08/11/2023	CUST173	Male	64	Senior	Electronics	4	30	120	£
187	7	6	2023	07/06/2023	CUST187	Female	64	Senior	Clothing	2	50	100	£
191	18	10	2023	18/10/2023	CUST191	Male	64	Senior	Beauty	1	25	25	£
218	22	9	2023	22/09/2023	CUST218	Male	64	Senior	Beauty	3	30	90	£
220	3	3	2023	03/03/2023	CUST220	Male	64	Senior	Beauty	1	500	500	£
223	2	2	2023	02/02/2023	CUST223	Female	64	Senior	Clothing	1	25	25	£
282	25	8	2023	25/08/2023	CUST282	Female	64	Senior	Electronics	4	50	200	£
363	3	6	2023	03/06/2023	CUST363	Male	64	Senior	Beauty	1	25	25	£
376	16	5	2023	16/05/2023	CUST376	Female	64	Senior	Beauty	1	30	30	£
399	1	3	2023	01/03/2023	CUST399	Female	64	Senior	Beauty	2	30	60	£
408	15	4	2023	15/04/2023	CUST408	Female	64	Senior	Beauty	1	500	500	£



Print screen 3

retail_sales_dataset_Master - Nagina

Search for tools, help, and more (Alt + Q)

File Home Insert Share Page Layout Formulas Data Review View Help Draw Table Design

Clipboard Font Alignment Number Styles Cells Editing

Q14 =SUM(N:N)

	K	L	M	N	O	P	Q	R	S	T	U
	Quantity	Price per Unit	Total Sales	Commission 2023	Commission 2024	Column1	Column2	Column3	Column4	Column5	Column6
1	3	50	150	£	2.25	£	3.00				
2	2	500	1000	£	15.00	£	20.00	Commission rate 2023	1.50%		
3	1	30	30	£	0.45	£	0.60	Commission rate 2024	2%		
4	1	500	500	£	7.50	£	10.00				
5	2	50	100	£	1.50	£	2.00				
6	1	30	30	£	0.45	£	0.60				
7	2	25	50	£	0.75	£	1.00				
8	4	25	100	£	1.50	£	2.00	All products			
9	2	300	600	£	9.00	£	12.00	Clothing	155,580	441	453
10	4	50	200	£	3.00	£	4.00	Electronics	156,905	439	410
11	2	50	100	£	1.50	£	2.00	Beauty	143,515	418	350
12	3	25	75	£	1.13	£	1.50				
13	3	500	1500	£	22.50	£	30.00	2023	6840		
14	4	30	120	£	1.80	£	2.40	2024	9120		
15	4	500	2000	£	30.00	£	40.00				
16	3	500	1500	£	22.50	£	30.00				
17	4	25	100	£	1.50	£	2.00				

retail_sales_dataset (2) retail_sales_dataset Sheet2 Transactions Task 2 Sheet1

Workbook Statistics

Give Feedback to Microsoft

100%

Print screen 4

retail_sales_dataset_Master - Nagina

Search for tools, help, and more (Alt + Q)

File Home Insert Share Page Layout Formulas Data Review View Help Draw Table Design

Clipboard Font Alignment Number Styles Cells Editing

T14 =AVERAGE(N:N)

	K	L	M	N	O	P	Q	R	S	T	U
	Quantity	Price per Unit	Total Sales	Commission 2023	Commission 2024	Column1	Column2	Column3	Column4	Column5	Column6
1	3	50	150	£	2.25	£	3.00				
2	2	500	1000	£	15.00	£	20.00	Commission rate 2023	1.50%		
3	1	30	30	£	0.45	£	0.60	Commission rate 2024	2%		
4	1	500	500	£	7.50	£	10.00				
5	2	50	100	£	1.50	£	2.00				
6	1	30	30	£	0.45	£	0.60				
7	2	25	50	£	0.75	£	1.00				
8	4	25	100	£	1.50	£	2.00	All products	155,580	441	453
9	2	300	600	£	9.00	£	12.00	Clothing	155,580	441	453
10	4	50	200	£	3.00	£	4.00	Electronics	156,905	439	410
11	2	50	100	£	1.50	£	2.00	Beauty	143,515	418	350
12	3	25	75	£	1.13	£	1.50				
13	3	500	1500	£	22.50	£	30.00	2023	6840		
14	4	30	120	£	1.80	£	2.40	2024	9120		
15	4	500	2000	£	30.00	£	40.00				
16	3	500	1500	£	22.50	£	30.00				
17	4	25	100	£	1.50	£	2.00				

retail_sales_dataset (2) retail_sales_dataset Sheet2 Transactions Task 2 Sheet1

Workbook Statistics

Give Feedback to Microsoft

100%



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

The screenshot shows an Excel spreadsheet with the following data:

Student name	English	Maths	Science	Average	Highest score
Ted	80	75	90	81.66667	90
Carol	75	85	85	81.66667	85
Khan	85	75	80	80	85
Harry	80	70	80	76.66667	80
Sarah	80	70	80	76.66667	80
John	65	80	70	71.66667	80
Linda	90	50	70	70	90
Edward	55	80	60	65	80
Mary	55	70	65	63.33333	70
Thomas	55	30	45	43.33333	55

Below the data table, there is a task list:

14 Task

15 1) Apply filter and sorting to show the best students in each subject: English - Linda, Maths - Carol, Science - Ted.

16 2) Calculate the average for all students and fill into Column E, (Use formula) ✓

17 3) Using the =MAX function, tell me what the students highest score was in column F. Ted & Linda

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 ✓

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

In which markets do Germany have customers?

Adults (35-64)

What country has sales in all markets?

Australia & United Kingdom

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

Country: United States

Age Group: Adults (35-64)

Gender: Female

Any other findings?

Day 3: Task 2



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

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

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

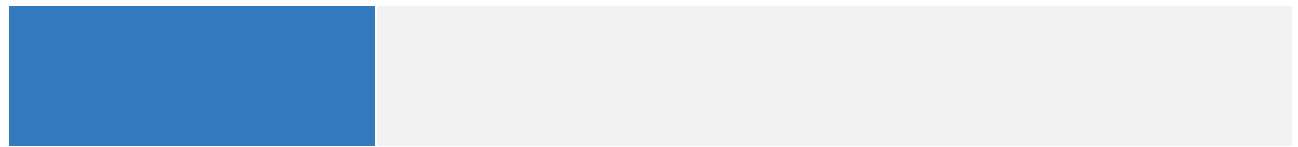
Print screen 1

The top screenshot shows a PivotTable summarizing sales by county and product. The data is as follows:

County	Product	Sales Volume
Yorkshire	Laptops	800
Yorkshire	Smartphones	200
Yorkshire	Laptops	200
Yorkshire	Smartphones	200
Yorkshire	Printers	400
Yorkshire	Smartphones	150
Yorkshire	Laptops	600
Yorkshire	Printers	800
Yorkshire	Smartphones	300
Yorkshire	Laptops	250
Yorkshire	Printers	300
Yorkshire	Smartphones	600
Yorkshire	Laptops	400

The bottom screenshot shows the original data with a new 'Sales Volume' column created using the SWITCH function. The formula in cell D2 is: `=SWITCH(TRUE,C2>600,"High",C2>300,"Medium",C2<300,"Low")`. The data is as follows:

County	Product	Sales Volume
Yorkshire	Laptops	800
Yorkshire	Smartphones	200
Yorkshire	Laptops	200
Yorkshire	Smartphones	200
Yorkshire	Printers	400
Yorkshire	Smartphones	150
Yorkshire	Laptops	600
Yorkshire	Printers	800
Yorkshire	Smartphones	300
Yorkshire	Laptops	250
Yorkshire	Printers	300
Yorkshire	Smartphones	600
Yorkshire	Laptops	400

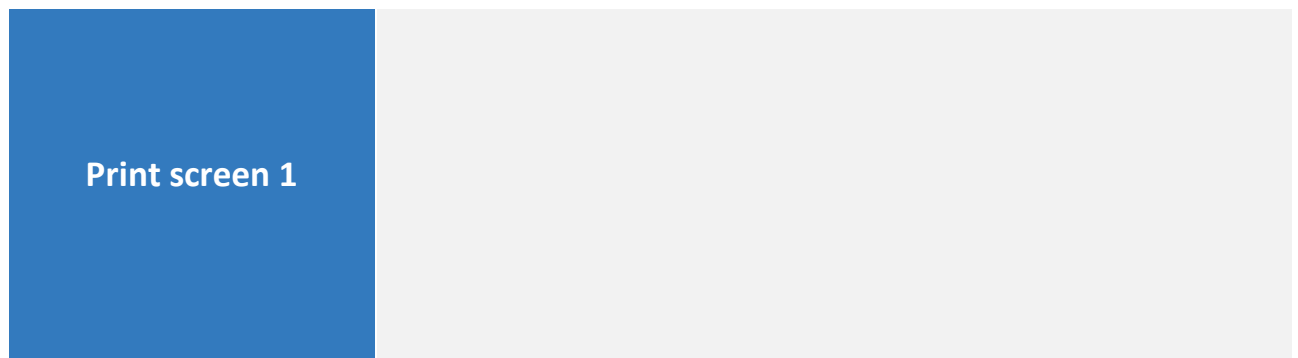


Day 3: Task 3

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.

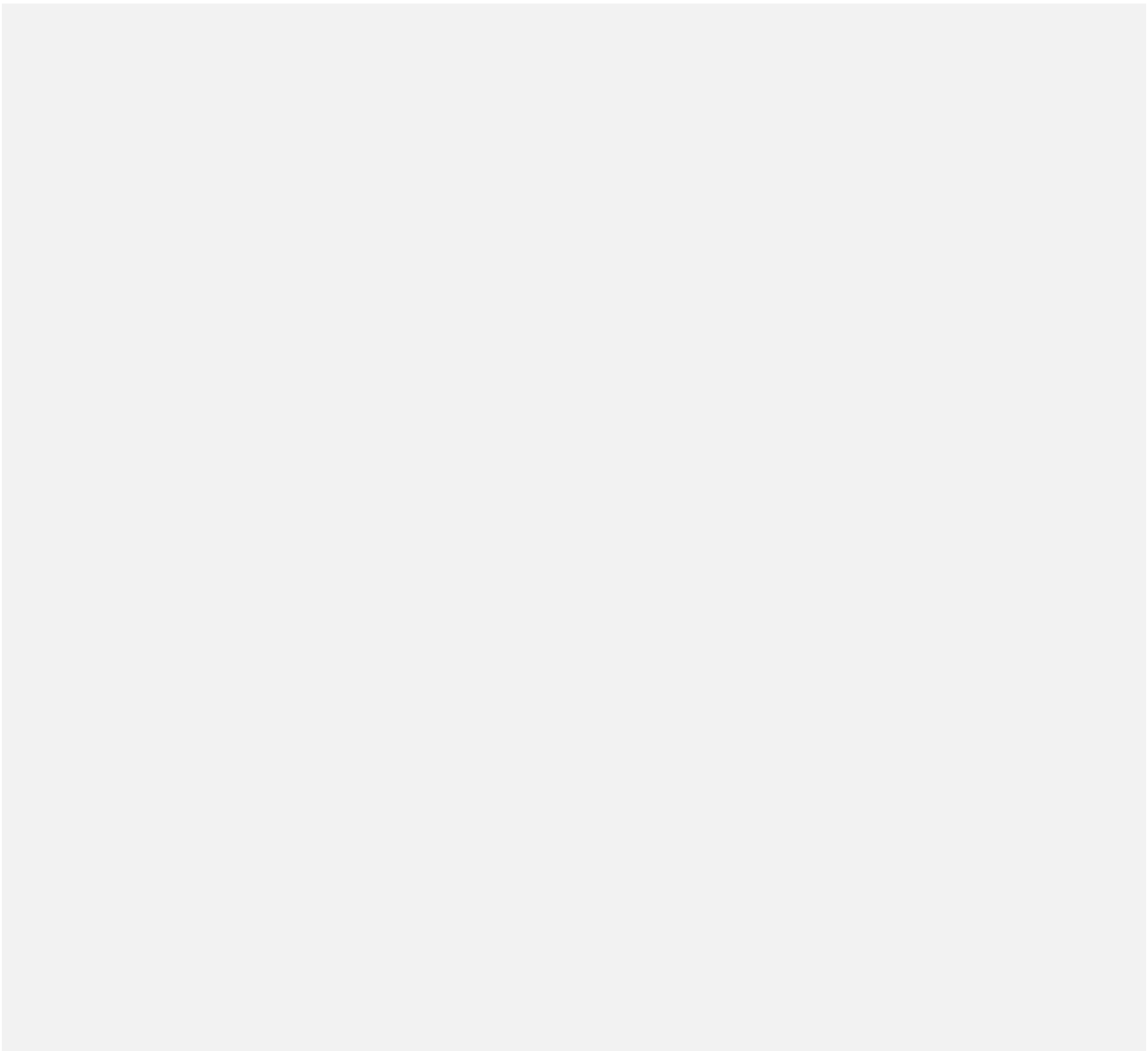
Please paste your results below:



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.

