

Data Technician

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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 is a law in the UK that governs how personal data is collected, stored and shared. It came into effect in 2018 along with the GDPR. It is important as it works in compliance with GDPR, ensures an individual's privacy (such as



	<p>their name, address, bank details etc) is protected and holds organisations accountable, allowing transparency. It is used in various settings, for example in healthcare, it is essential that a patient's personal information is stored correctly either digitally or in locked cabinets. Patients should be allowed access to their data if it needs correction. The Data Protection Act supports and encourages consent, security, safeguarding, individual rights and transparency. If it is breached, consequences can include fines, reputation damage, loss of customer trust and legal proceedings.</p>
GDPR	<p>The General Data Protection Regulation is a legal framework that sets guidelines for the way that personal information is collected and processed from individuals who live in and outside of the EU. It is important because it gives all organisations a set of rules to adhere to and it protects the rights of individuals. You can use it wherever personal information is present, for example when companies collect emails for their newsletters, they must clearly ask for consent and the customer must be allowed the option to unsubscribe (opt-out). Without permission, the business cannot share the email to third parties, and it must store the data in a secure manner for as long as necessary. GDPR is very significant in data handling. Companies must implement strong safety measures and are aware that they can only collect data that is necessary for their purpose. Breaching GDPR means that organisations can face heavy fines with legal proceedings, loss of customer trust and reputation damage.</p>
Freedom of Information Act	<p>The FOIA is a law in the UK that grants the public to access information held by public authorities, with exemptions for national security and personal privacy. It is important in government and public sector operations as it allows citizens to see how decisions are being made and how taxpayer money is being spent. It helps show power isn't being abused and allows the public to scrutinize government activities. If an individual requested information on how much public money was being spent on a government campaign, the response would be provided within 20 days, and the public body is legally required to grant them their request. The Freedom of Information Act impacts working with data as it grants the public access ensuring openness whilst having clear exemptions. Failing to comply with the FOIA</p>

	can lead to legal action where you can appeal to the Information Commissioner's Office (ICO). It can also lead to fines, penalties and reputation damage.
Computer Misuse Act	The Computer Misuse Act 1990 is a UK law designed to protect computer systems, data and networks from illegal unauthorised access and malicious misuse/alteration of data. This can include hacking into accounts without permission, stealing sensitive information, committing fraud and installing malwares or viruses. It is important because it helps prevent cybercrime, like hacking and ensures there are legal consequences. If you worked for a company that deals with finances, you would make sure only authorised employees have access to sensitive data, by using strong passwords, two-factor authentication, and monitoring systems for unusual activity. You would also make sure the systems are up to date with the latest safety features and employees are trained not to click on suspicious links. The act impacts how organisations work with data by enforcing security, data integrity and regularly monitoring systems. If breached, offenders can face fines or prison sentences (with up to 10 years for serious crimes), along with significant reputational damage and financial loss (e.g. potential lawsuits from affected parties).

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	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023
14	1/17/2023	CUST014	Male	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80
25	12/26/2023	CUST025	Female	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75
80	12/10/2023	CUST080	Female	64	Clothing	2	£ 30.00	£ 60.00	£ 0.90
122	10/3/2023	CUST122	Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80
161	3/22/2023	CUST161	Male	64	Beauty	2	£ 500.00	£ 1,000.00	£ 15.00
163	1/2/2023	CUST163	Female	64	Clothing	3	£ 50.00	£ 150.00	£ 2.25
173	11/8/2023	CUST173	Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80
187	6/7/2023	CUST187	Female	64	Clothing	2	£ 50.00	£ 100.00	£ 1.50
191	10/18/2023	CUST191	Male	64	Beauty	1	£ 25.00	£ 25.00	£ 0.38
218	9/22/2023	CUST218	Male	64	Beauty	3	£ 30.00	£ 90.00	£ 1.35
220	3/3/2023	CUST220	Male	64	Beauty	1	£ 500.00	£ 500.00	£ 7.50
223	2/2/2023	CUST223	Female	64	Clothing	1	£ 25.00	£ 25.00	£ 0.38
282	8/25/2023	CUST282	Female	64	Electronics	4	£ 50.00	£ 200.00	£ 3.00
363	6/3/2023	CUST363	Male	64	Beauty	1	£ 25.00	£ 25.00	£ 0.38
376	5/16/2023	CUST376	Female	64	Beauty	1	£ 30.00	£ 30.00	£ 0.45
399	3/1/2023	CUST399	Female	64	Beauty	2	£ 30.00	£ 60.00	£ 0.90

Print screen 2

Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023
14	1/17/2023	CUST014	Male	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80
25	12/26/2023	CUST025	Female	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75
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399	3/1/2023	CUST399	Female	64	Beauty	2	£ 30.00	£ 60.00	£ 0.90

Print screen 3

Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023
14	1/17/2023	CUST014	Male	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80
25	12/26/2023	CUST025	Female	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75
80	12/10/2023	CUST080	Female	64	Clothing	2	£ 30.00	£ 60.00	£ 0.90
122	10/3/2023	CUST122	Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80
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399	3/1/2023	CUST399	Female	64	Beauty	2	£ 30.00	£ 60.00	£ 0.90

Print screen 4

Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total sales	Commission 2023
14	1/17/2023	CUST014	Male	64	Clothing	4	£ 30.00	£ 120.00	£ 1.80
25	12/26/2023	CUST025	Female	64	Beauty	1	£ 50.00	£ 50.00	£ 0.75
80	12/10/2023	CUST080	Female	64	Clothing	2	£ 30.00	£ 60.00	£ 0.90
122	10/3/2023	CUST122	Male	64	Electronics	4	£ 30.00	£ 120.00	£ 1.80
161	3/22/2023	CUST161	Male	64	Beauty	2	£ 500.00	£ 1,000.00	£ 15.00
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399	3/1/2023	CUST399	Female	64	Beauty	2	£ 30.00	£ 60.00	£ 0.90

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

File Home Insert Share Page Layout Formulas Data Review View Help Draw							
Calibri (Body) 12 B [Font Icons] [Color Icons] [More Icons] [Align Icons] [List Icons] [Table Icons] [General] \$€ ¥ .0 0%							
11 [Filter] [Formulas] [More Icons]							
1	Student name	English	Mathematic	Science	Average	Highest score	Does the student require extra support
2	Ted	80	75	90	81.67	90	no
3	Carol	75	85	85	81.67	85	no
4	Khan	85	75	80	80	85	no
5	Harry	80	70	80	76.67	80	no
6	Sarah	80	70	80	76.67	80	no
7	John	65	80	70	71.67	80	no
8	Linda	90	50	70	70	90	no
9	Edward	55	80	60	65.00	80	no
10	Mary	55	70	65	63.33	70	no
11	Thomas	55	30	65	50.00	65	yes
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.						

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! Pivot Table and Slicers

Print screen 1	Wouldn't allow me to import data whilst using the online version of excel, however I know how to carry out the function
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by going into Data – From web – Copy and paste the link – Select Ok – Table 1 – Load

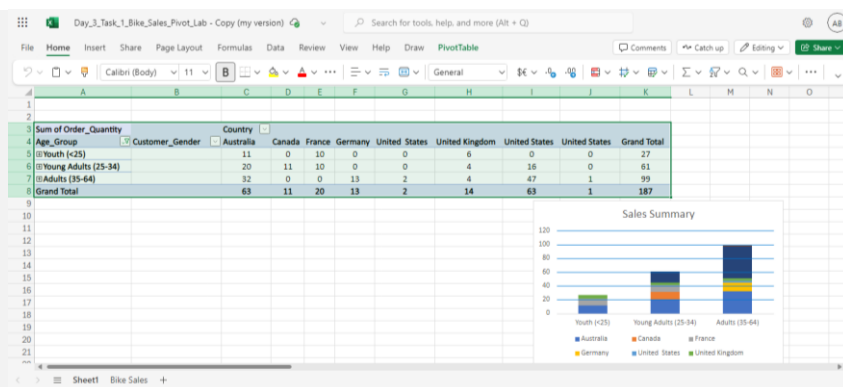
Day 3: Task 1

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 from 35 to 64 years of age

What country has sales in all markets?

Australia and the UK

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

Australia and the US by country
Adults (35-64 years) by age group
Female by gender

Any other findings?

The Youth age group is the least profitable market.

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")

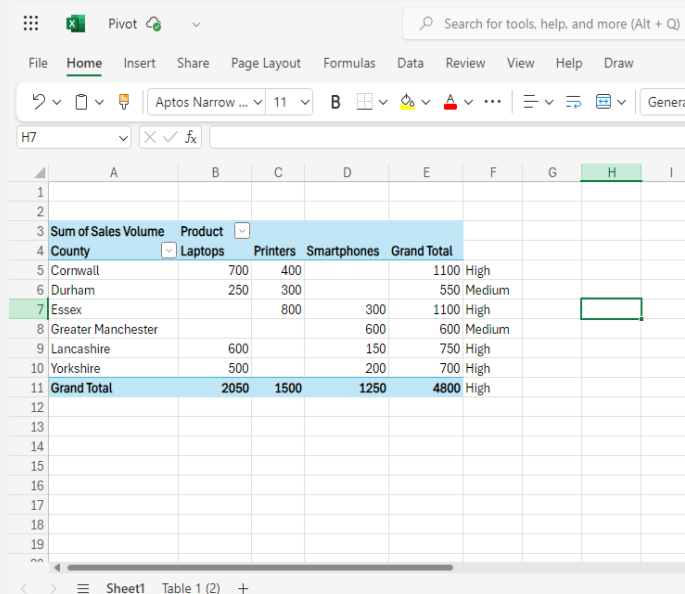
- Apply this formula to each row, and check if the products are categorised correctly.



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 screenshot shows an Excel PivotTable with the following data:

County	Laptops	Printers	Smartphones	Grand Total	
Cornwall	700	400		1100	High
Durham	250	300		550	Medium
Essex		800	300	1100	High
Greater Manchester			600	600	Medium
Lancashire	600		150	750	High
Yorkshire	500		200	700	High
Grand Total	2050	1500	1250	4800	High

Day 3: Task 3

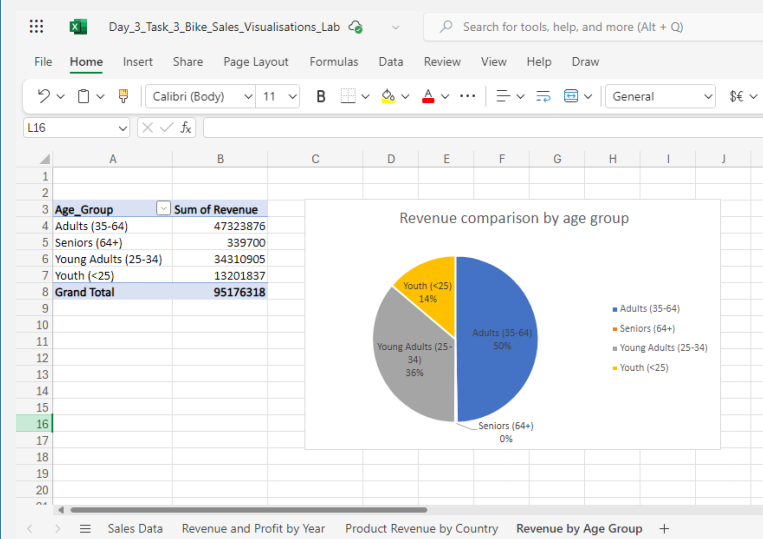
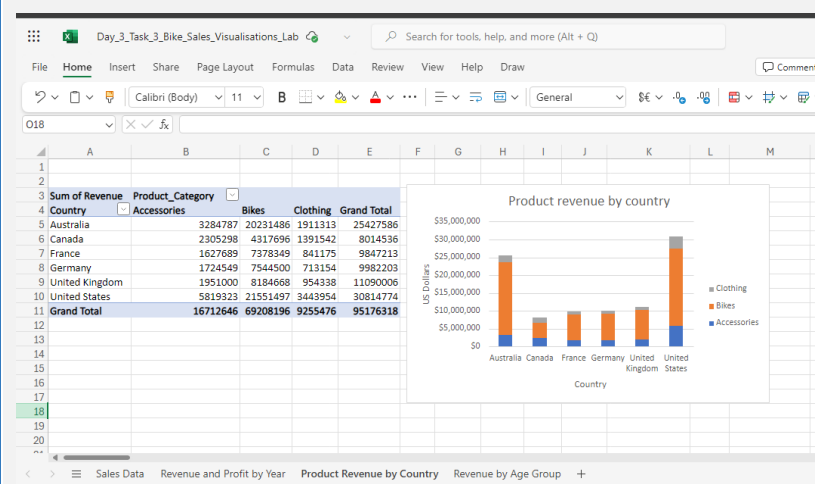
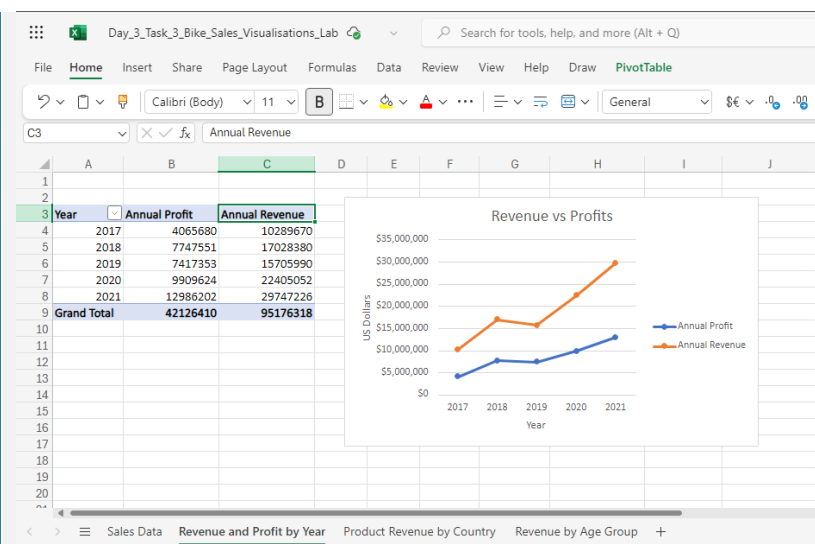
Please download the dataset 'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from [here](#).

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



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?	<p>I should first ensure that I know my audience, which is the board of directors, and make sure I know their focus. They will probably be concerned with the overall business impact and would be interested in any actionable insights which, in this case, is the fact that customers are leaving after a year when they receive their renewal price.</p> <p>My message should be concise and focused on key conclusions. I should make sure I have rehearsed the delivery, am confident and able to answer any potential questions, and I've backed up my findings with relevant data so that I can defend my analysis.</p> <p>Make sure I have dealt with any outliers, inaccurate or missing values etc.</p>
What tools would you use for the delivery?	<p>For slide decks, I would use PowerPoint to present my findings, and I would use Excel to display the data visually, perhaps with a dashboard to make related information easier to understand.</p>
What is prospecting and why would you complete this before your delivery?	<p>Prospecting is the process of identifying and researching potential customers, trends etc before a presentation and I would do this before my delivery because it would help me understand the root causes of why the customers are leaving, help me identify customers that are more vulnerable to leaving and ensures that I am on the right track,</p>



	<p>meaning my insights are data driven and compatible with the goals of the company.</p> <p>I would do this by conducting interviews, reviewing past customer feedback, analysing competitor practices/prices or conducting customer surveys.</p>
<p>Tell me best practices for public speaking and providing updates to senior leaders</p>	<p>The best thing to do when public speaking is to know my audience and understand what is important to them and why.</p> <p>Other things you can do is be clear and concise, don't use overly technical terms (jargon), tailor the presentation to the audience and base it onto their own level of knowledge so they can follow along easily.</p> <p>Engage your audience using pictures, graphs and visualisations as pictures speak more than words! You can use examples, stories and case studies to illustrate key points and retain attention.</p> <p>Maintain eye contact to build rapport. Don't fidget or pace. Don't use filler words like 'ummm' and maintain confident posture/body language. Make sure your voice isn't too soft so that it reaches the back of the room. Stay calm and just breathe. Just keep practicing and you'll get better at it.</p> <p>Follow a clear structure, with a good logical flow, introduction to key findings to recommendations to conclusion.</p> <p>Once the presentation is over, let the board know that you will email your findings/presentation so that they feel free to ask any questions that they might not want to ask at the time.</p>

<p>What will you show the board in your delivery?</p>	<p>Introduction and key insights - so the correlation between a customer leaving and the 12-month mark where the renewal plan would start. Also, the reason why customers might be leaving at month 12 with data as evidence.</p> <p>Comparison of competitors – so we can see how our renewal strategy compares to theirs and why theirs is more appealing to customers.</p> <p>Next steps and call for action – so maybe better pricing strategies or loyalty plans for long-term customers.</p> <p>Also, forecasting to predict future trends – so how implementing these changes can improve retention rates and overall revenue over time for the company.</p>
<p>How will you articulate the changes that are needed?</p>	<p>I will provide a clear strategy to address the situation. Data will be my main source as it will back up everything and with it, we can see why some steps like a loyalty program might be necessary or communicating to customers.</p> <p>I will also demonstrate the changes in order of priority, so which ones are more urgent and need to be dealt with first, short term and then in the long run too, by figuring out which will be better for the company.</p> <p>Like mentioned in the above box, we can show how these changes can lead to long-term customer retention, revenue growth and better satisfaction from customers.</p>
<p>Provide a list of online resources and videos that will support your</p>	<p>TED’s Secret to Public Speaking: (YouTube) https://www.youtube.com/watch?v=-FOCpMAww28</p> <p>10 Tips for Improving Your Public Speaking Skills – Harvard</p>

<p>preparation for public speaking</p>	<p>https://professional.dce.harvard.edu/blog/10-tips-for-improving-your-public-speaking-skills/</p> <p>Public Speaking for Beginners (YouTube) https://www.youtube.com/watch?v=i5mYphUoOCs</p> <p>Coursera – Tips https://www.coursera.org/articles/public-speaking</p>
<p>Evaluate tools that provide visualisation.</p> <p>Tell me what they are.</p> <p>Tell me what you would choose when delivering your presentation and why</p>	<p>Excel – Familiar and easy to use. Less suited for highly complex visualisations compared to Power BI or Tableau.</p> <p>Power BI – Creates interactive reports and dashboards, ideal for large amounts of data.</p> <p>Tableau – Visual and interactive. Allows you to show complex data in an easily digestible format.</p> <p>I would choose PowerPoint to present as I am familiar with it, and I like the flow of it. I think it makes things easier for other people to follow along as well which is a huge bonus. It is also easy to design and can be personalised so that it is engaging to the audience.</p> <p>I would also choose Excel, even though it might not be as advanced as other tools, it is something that I am currently more familiar with compared to the other tools. I would be able to use line graphs to show trends over time (and predict future trends), bar charts, pie charts, pivot tables and conditional formatting.</p>

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.

