

**Data Technician**

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| 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

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| Data Protection Act | The Data Protection Act is a law in the UK that determines how personal data is collected, processed, and stored. It ensures that a person’s information is handled securely.  It is important as it ensures people’s privacy and protects them from companies or hackers misusing their data, which fosters trust between the company and the public at large.  For example, if a retail company collects customer choice more information when they sign up for special benefits, the company ensures that the data is securely stored and only used for marketing purposes with the customer's consent. It allows the customer to change or delete their data at any time and implements safeguards to prevent unauthorized access to the consumer’s information.  It impacts working with data by requiring organizations to collect only essential data. They must then keep it secure and provide individuals with the ability to access and modify their data.  A breach would lead to heavy consequences, such as fines and losing public trust. It could also be legally tenuous, leading to a downfall of reputation and finances. |
| GDPR | The General Data Protection Regulation (GDPR) is a regulation dictated by the EU that dictates how personal data should be collected, processed, and stored, with a focus on transparency and security. It applies to EU-based businesses or any companies handling the data of EU citizens.  It is important because it strengthens data privacy rights for individuals and ensures businesses handle personal data responsibly. A company that is not compliant with this regulation can face severe penalties as it would be risky not to handle data appropriately.  For example, when a business is designing a website, they must include a clear privacy policy and obtain explicit consent from users for data collection, giving them the ability to opt out or delete their data.  It imposes strict rules on data usage, requiring consent for data collection, clear communication, and protection of site visitors’ personal data from data breaches.  If a breach happens, it can result in hefty fines (up to 4% of global revenue or €20 million, whichever is higher), along with significant damage to the breacher’s reputation and legal repercussions. |
| Freedom of Information Act | The Freedom of Information Act allows the public to access information held by public authorities in the UK and promotes transparency in public institutions.  It fosters trust and transparency in government and public institutions, allowing citizens to request information about their operations and decision-making processes so they can make informed conclusions.  For example, if you work for a public organization and you receive a request for information, you must provide the requested information unless it is exempt (e.g., for national security concerns).  Public authorities must have processes to respond to such requests and ensure sensitive data is appropriately handled or redacted in response to the requests to foster a sense of safety.  Failure to comply could lead to legal ramifications, reputational damage, and fines. If information is not transparently provided, public trust will also be lost. |
| Computer Misuse Act | The Computer Misuse Act is a law in the UK that criminalizes unauthorized access to computer systems and data, such as hacking, creating, and spreading malware and Trojan viruses, as well as data theft.  It protects against cybercrimes that can result in data breaches, fraud, and significant damages to systems and networks. It helps safeguard organizations and individuals from malicious cyber-attacks.  For example, the data breach in the British Library was so significant that it took them months to ramp up security, and even now they are still suffering from the effects. Implementing strong cybersecurity measures like firewalls, encryption, and access controls are typically recommended to ensure that only authorized personnel can access sensitive data.  It requires businesses to implement strong security protocols to prevent unauthorized access to their systems and protect sensitive data from cyber-attacks.  Breaching this law results in criminal charges, imprisonment, and fines. It could also result in significant financial losses and damage to an organization’s reputation due to the public perception of flawed security. |

# 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’

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| Print screen 1 |  |
| Print screen 2 |  |
| Print screen 3 |  |
| Print screen 4 |  |

# 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:



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| Print screen 1 | 1) Sorting the best students in subjects (English, Maths, Science)        2) Calculating the Average Score for Each Student  3) Calculating the Highest Score for Each Student    4) Sorted to Show Best Average    5) Sorted to Show Highest Score    6) Bottom and Top Scores |

# 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!

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| Print screen 1 | Full Table:    Weight Sorted from Highest to Lowest    Weight Sorted from Highest to Lowest    =AVERAGE(C3:C8)  =AVERAGE(D3:D8) |

# Day 3: Task 1

Please download the dataset ‘Day\_3\_Task\_1\_Bike\_Sales\_Pivot\_Lab.xlsx’ from [here](https://justit831-my.sharepoint.com/:x:/g/personal/danpe_justit_co_uk/Eb73L6LixCJHtafDJ4AOh-ABR9CVF0n9sdEgB4foSh261g?e=jh493A).

The lab instructions can be found [here](https://justit831-my.sharepoint.com/:b:/g/personal/danpe_justit_co_uk/EVySAtWQiEVDmrtCufrqTgwBuLVxX6mEKYqEAe0Mgl6b9Q?e=i05yOa). 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:

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| Print screen 1 |  |
| In which markets does Germany have customers? | Germany's customers are primarily purchasing the Mountain-200 Black, 42. |
| What country has sales in all markets? | France is the country with sales in all markets for mountain bikes. |
| What are the most profitable markets by country, age group, and gender? | * Country: France - with the ‘Sum of Sales Order #’ being 2,094,036 and the ‘Order Quantity’ being 20. * Age Group: Adults (35-64) - with the ‘Sum of Sales Order #’ being 12,301,589 and the ‘Order Quantity’ being 99. * Gender: Women - with the ‘Sum of Sales Order #’ being 13,086,903 and the ‘Order Quantity’ being 108. |
| Any other findings? | * Mountain Bikes are the most frequently purchased products, with the Mountain-200 Black, 38 and Mountain-200 Silver, 46, being the top sellers. * Specific high-demand items, such as; Mountain-200 Black, 38 and Mountain-200 Silver, 46, show high order quantities and sales figures. |

# 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:**

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| --- | --- | --- |
| **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 |

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#### **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

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| Print screen 1 |  |

# Day 3: Task 3

Please download the dataset ‘Day\_3\_Task\_3\_Bike\_Sales\_Visualisations\_Lab.xlsx’ from [here](https://justit831-my.sharepoint.com/:x:/g/personal/danpe_justit_co_uk/ESeJLtyZhYxIpZXluVywvvkBxgx2EtpPUzmxLCzQBGTKNQ?e=naSu4B).

The lab instructions can be found [here.](https://justit831-my.sharepoint.com/:b:/g/personal/danpe_justit_co_uk/Ec1IWsNPl_ZMuaSbNcaLyVcByy3JcZaQgoG1FeFwO9neRQ?e=6lsJG1) 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:

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| Print screen 1 |  |

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# 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:

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| How would you prepare for the delivery? | Understanding the audience, tailor the language, visuals, and examples to senior leaders’ expectations. They likely want high-level insights and strategies rather than details.  Setting up a clear narrative is also important. Letting them know the problem should be the first priority, then analysing the problem and providing data insights and finally coming up with a solution to foster a sense of security in which they’re confident that there is a plan.  The speaker must also come up with potential questions the board may ask (i.e.- root causes, financial impacts and strategies, and prepare the answers in advance. They also must rehearse the presentation numerous times to learn pacing, clarity and to feel more confident with the presentation. |
| What tools would you use for the delivery? | Tools like Microsoft PowerPoint and Google Slides are industry standards, as they are useful, relatively easy to use and versatile, allowing the presenter to create the narrative through the slides.  Tableau and Power BI can be used to organise numerous sets of data into an easily digestible sheet of charts and graphs that clearly communicate customer trends and the impact of renewal pricing.  Organising key points and potential questions and answers is also a necessary aspect to prepare fore, software such as OneNote to organise the key points for quick reference would typically be helpful. |
| What is prospecting and why would you complete this before your delivery? | Prospecting means gathering and analysing insights and data pertaining to the priorities of the board member’s goals and priorities before the meeting, as well as being aware of the performance metrics.  Understanding their values, previous decisions and interests. The presenter can then use descriptive and diagnostic data to draw a logical conclusion that align with board expectations. This can improve the probability of gaining support for any proposed solutions that involve change. |
| Tell me best practices for public speaking and providing updates to senior leaders | Clarity and brevity are extremely important, keeping points clear and concise allows for it to be short but engaging. Senior leaders and staff likely have limited time and need straightforward insights rather than waxing lyrical. This also displays to the senior leaders that the speaker is focused and has full knowledge of the subject, inspiring confidence in them. Brevity in visuals is also a necessity, presenting key metrics that directly support the insights and solutions. Overloading the presentation with excessive data will look unprofessional and visually unappealing and be a hindrance to the narrative flow.  Maintaining eye contact is a plus, as it fosters trust between the presenter and exudes confidence in the solution and keeps them engaged, as well as body language and tone of voice. If challenged, respond with an even voice and display confidence in the research and findings. They should also encourage questions and be open to feedback, as it will allow the board to ask questions that can be answered more in-depth and allow the board to view the presenter as a collaborative and receptive person, fostering further trust.  Finally, outline the problem clearly, however, the focus must be put on actionable recommendations, as senior leaders don’t just want to hear about the problem, they want to know the solution, knowing there is action being taken would likely give a sense of security in the board. |
| What will you show the board in your delivery? | The content for the board presentation must involve:   * Brief summary of the problem * Data analysis which visually displays customer retention rates, drop-off points and how that correlates with renewal pricing * Possible root causes behind the drop-off, such as change in customer needs or price increases due to lack of funds. * Quantifying the financial impact of customer loss on revenue and long-term growth. * Proposing solutions, such as personalised services, such as discounted renewal offers, loyalty programs or tiered pricing, which would allow them to customise their experience at a lower price * The potential positive outcomes that would be from implementing the given solutions on retention and revenue. |
| How will you articulate the changes that are needed? | The presenter must link the changes to business goals, the proposed changes need to be clearly shown as changes that align with the company’s goals and growth targets, as well as focusing on benefits. Emphasizing the potential benefits, such as increased retention, customer lifetime value, and brand loyalty.  Transparency is a necessity, acknowledging the risks and costs that can be caused by the changes, and mitigating strategies, display to the senior leaders that the presenter has done their research and is willing to be critical of their own strategies, and have a further plan that mitigates the risk. They must also be willing to clearly outline the next steps required from the board. |
| Provide a list of online resources and videos that will support your preparation for public speaking | * Listening to Speeches made by leaders or motivational speakers * TED Talks * Simon Sinek, a motivational speaker who authored books such as *“Start with Why: How Great Leaders Inspire Everyone to Take Action”* and *“The Infinity Game”*. * “Public Speaking Foundations” from LinkedIn Learn * “The Art of Public Speaking” by Stephen E. Lucas * Coursera’s “Presentation Skills: Speechwriting, Slides and Delivery” series of courses from Tomsk State University: |
| Evaluate tools that provide visualisation.  Tell me what they are.  Tell me what you would choose when delivering your presentation and why | I would use Power BI as it’s useful for live data and interactive dashboards, it is ideal for engaging and dynamic presentations. Tableau is also an excellent option as it is useful for providing complex data insights and data visualisation capabilities, allowing for clear and concise visuals.  Microsoft Excel is flexible and a simpler, more accessible option, however the previous two show more professional graphs and allow for an interactive experience, whereas Excel is simpler and more used for quick charts and graphs.  Overall, Tableau would be recommended for a more visual experience rather than interactive and Power BI if the interactive aspect and live data manipulation are more valuable. Both tools are industry standard and would be suitable for presenting to a senior audience, and their capacity to make complex insights using the data make the software more compelling. |

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| **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:

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| **Additional Information** |

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.**