

**Data Technician**

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| Course Date: 16/12/24 |
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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

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| Data Protection Act | DPA is a law to control how individuals’ data is used by companies. We need this law to protect and safeguard companies from unfairly targeting users and taking advantage of them. Companies must be transparent with the use of people’s data. If a company breaches this law, it can face severe fines and eventually prevention of collecting and using personal data in the future. To follow it one must provide the right notifications and terms when acquiring people’s data by making someone sign off on collecting their data for certain purposes. |
| GDPR | This law defines people's rights regarding the use of their data and sets about how companies can be compliant in using their data. It is a part of human rights law and covers the European Union zone. To use it, a website should provide a notice, where a use can decline or accept the terms for collecting data. When companies want to process that data, they have to notify the individuals for consent if the purpose for previous consent changes. Similar to the UK’s DPA act, companies will be fined for any breach of the policy, which ranges in severity based on the nature of the breach. |
| Freedom of Information Act | FOA gives the public the rights to access certain information about the governance of public institution. It is useful to provide transparency for the public and is a cornerstone of a democratic society. The press has access to laws proposed by lawmakers and highlight how these proposed laws may impact the society, which helps people vote or make objections. Institutions can be forced to release information if they are found to be in breach of the act. Administrators can be found to be in contempt of court if they fail to comply and jailed as a result. |
| Computer Misuse Act | The CMA is a criminal law that sets guidelines for punishment for cybercrimes like; fraud, vandalism, hacking, etc. Refrain from stealing information via the web or physical premises of computers. Data operators have to ensure to protect data from criminal actors and report if a computer misuse crime has occurred. Breaches of this law involves fines and imprisonment. People can be jailed up to 10 years for CMA-related crimes. |

# 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 ‘sort’ function, sort ‘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 | Inserting image... |
| 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 |  |

# 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 |  |

# 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? |  |
| What country has sales in all markets? |  |
| What are the most profitable markets by country, age group, and gender? |  |
| 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:**

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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 |

#### **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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# Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, with 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? | Firstly, I would verify the scope of the project; what data can be included, what is the format, any validation methods taken previously, and look for key performance indicators or key metrics that the stakeholders (the board of directors) want peculiar to the organisation.  After finding out the scope and format, I would prepare for data exploration by analysing customer feedback (qualitative data as well quantitative) |
| What tools would you use for the delivery? | As part of the project brief, I would have asked what the boards’ policy is on visualisations and presentation.  From common knowledge, there is a high likelihood that a MS PowerPoint presentation with data manipulation in MS Excel and a report in MS Word. |
| What is prospecting, and why would you complete this before your delivery? | From research, prospecting is anticipating what the questions and concerns that the board could have and preparing for them. |
| Tell me best practices for public speaking and providing updates to senior leaders | Using an executive summary, being clear and concise, using data-driven insights, being confident and composed, actively listening, matching solutions with corresponding problems |
| What will you show the board in your delivery? | Executive summary  Data visualisations: charts and graphs of segments and trend analyses.  Analysis of renewal pricing  Root cause analysis  Customer feedback  Proposed solutions  Project impact and caveats  Project impact  Action plan |
| How will you articulate the changes that are needed? | Focus on the financial impact  Highlight customer experience  Present recommendations with data visualisations  Highlight opportunities with problem areas  Action plan  Quantify results |
| Provide a list of online resources and videos that will support your preparation for public speaking | <https://hbr.org/>  <https://www.ted.com/>  <https://www.amycuddy.com/podcasts>  <https://www.youtube.com/user/charismaoncommand> |
| Evaluate tools that provide visualisation.  Tell me what they are.  Tell me what you would choose when delivering your presentation and why | MS Excel: for basic charts and graphs for simple data visualization.  Looker Studio: A free, cloud-based tool for creating dashboards and reports.  Power BI: Microsoft's business analytics tool with strong visualization capabilities.  Python (Matplotlib, Seaborn, Plotly): Programming libraries for creating custom visualizations.  Again, depending on the organisation’s data policies, I would align with those.  Typically, this would be most likely a MS PowerPoint presentation with data manipulation in MS Excel and a report in MS Word.  Possibly, creating a PowerBI dashboard, depending on if they want to monitor the customer churn in the future, I could create a pipeline with Excel, Fabrics (Microsoft Cloud), and a PowerBI dashboard. |

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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.**